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3 September 1982

CHINA REPORT AGRICULTURE

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I. GENERAL INFORMATION

FLOOD PREVENTION PLANS FOR MAJOR RIVER BASINS UPDATED

Guangzhou NANFANG RIBAO in Chinese 20 Jun 82 p 1

[Article: "Flood Prevention Conferences for Seven Rivers Held One After Another To Implement This Year's Flood Prevention Measures. Overcome Paralyzed Thinking and Be Ready To Combat Widespread Flooding and Waterlogging"]

[Text] In order to assure safe passage through the flood season, ever since the advent of the flood season in mid-April conferences have been held one after another concerning the Zhu Jiang, Chang Jiang, Huai He, Huang He, Hai He, Liao He, and the Songhua Jiang to plan this year's flood prevention preparatory work for each individual river basin.

Large flooding occurred last year in the middle and upper reaches of the Chang Jiang and in the upper reaches of the Huang He, but no flooding has occurred for 10 to 20 years in the middle or lower reaches of the Chang Jiang, the lower reaches of the Huang He, or on the Huai He, Hai He, Songhua Jiang, or Liao He. This abnormal situation has aroused the serious attention of the Ministry of Water Conservancy and Power. In this regard, the Ministry of Water Conservancy and Power recently issued a notice requiring all levels of flood prevention organizations and water conservancy departments to overcome paralysis and a psychology of trusting to luck to prepare for combat against heavy floods, and to make active preparations to prevent floods to assure normal development of the national economy. As of 20 June, flood prevention conferences had been convened for the Zhu Jiang, Chang Jiang, Huai He, Huang He, Hai He, Liao He, and Songhua Jiang. Acting on the basis of the characteristics of individual basins, the conference conscientiously summarized last year's lessons of experience in preventing or combating floods, reported back on progress and quality of annual repairs to water conservancy projects, analyzed the present condition of individual rivers, directed serious attention to the study of key points in flood prevention, and actively put into effect flood prevention measures.

The Huai He basin has not flooded seriously since the 1950's. On the basis of most recent meteorological forecasts, however, a considerable amount of rain will fall in the Chang Jiang-Huai He and Huang He-Huai He area, and floods and waterlogging may occur. The four provinces of Hubei, Shandong, Anhui, and Jiangsu attending the conference on Huai He flood prevention have strengthened liaison and have jointly formulated warning measures. The

Huang He flood prevention conference was held in Zhengzhou from 20 to 25 May. The conference took note of the serious drought in the lower reaches of the Huang He and that no large flooding has occurred for more than 20 years. This year it is necessary to heighten vigilance and do a good job of preparing to prevent large floods. There positively can be no being caught off guard. The conference recognized that the high trough, low banks, and low-lying dike bases in the lower reaches of the Huang He threatened flood prevention, and that the danger of a bursting of the Huang He dikes existed as always. Therefore, not only is it necessary to prevent large floods, but also to heighten vigilance against medium size or small floods. In addition, resolute action must be taken to get rid of the embankments used in production along the banks of the Huang He. The conference proposed diligent work in use of manpower, materials, projects, in monitoring reports on water conditions, and in communications and liaison, launching of education in flood prevention and preparatory work in intercepting flood waters, dividing flood waters, and flood detention, institution of strict individual responsibility systems, and use of all available means to assure safe passage through the flood season.

The Hai He Water Conservancy Commission held a flood prevention conference between 28 May and 1 June. The conference noted that since the great 1963 flood of the Hai He basin, no other serious flooding has occurred, and that for the past several years many places have been concerned only with the fight against drought. They have paid no attention to a paralyzed mentality and trusting to luck to prevent floods. The conference recommended vigilance lest a large flood occur after prolonged drought, and demanded that a genuinely good job be done in preparing to prevent floods. The conference emphasized that a good job of flood prevention on the Hai He has a direct bearing on the safety of the capital at Beijing, the industrial base at Tianjin, and the North China Plain. No risks can be taken. In order to further buttress leadership of Hai He flood prevention, the conference examined and approved a flood season flood control plan which clearly set forth flood control jurisdiction and rigorously applied a flood control jurisdiction responsibility system. It analyzed the favorable factors and unfavorable elements in Hai He flood prevention, required all jurisdictions immediately to devote strict attention to inspection and reinforcement of flood prevention projects, check on obstacles to the free flow of floodwaters, insure that flood waters can pass through rivers, actively organize corps to fight floods and carry out rescue work, make sure there is solidarity and cooperation between the upper and lower reaches of the river, and work with one heart and mind to prepare to prevent floods.

Leaders at all levels devoted extremely serious attention to these flood prevention conferences on the seven rivers, and many leadership comrades in the more than 20 provinces, municipalities, and autonomous regions having major flood prevention duties personally attended. Leadership comrades from the Ministry of Water Conservancy and Power also attended the conferences.

RURAL PRODUCTION BRIGADE AVERAGE PER CAPITA INCOME FIGURES GIVEN

Beijing GONGSHE CAIWU [COMMUNE FINANCIAL WORK] in Chinese No 7, 1982 pp 17-23

[Article: "National Survey of Rural Production Brigades Having Average Per Capita Incomes of More Than 300 Yuan in 1981"]

[Text] Statistical data provided by the Ministry of Agriculture, Animal Husbandry and Fishery show that in 1981 rural commune production brigades throughout the country with average per capita annual earnings from collective distributions of more than 300 yuan numbered 10,943, an increase by 5,374 over the 5,569 of 1980 for a 96.5 percent increase. This was 1.5 percent of the total number of production brigades in the country.

A statistical breakdown of 10,189 production brigades in 28 provinces, municipalities and regions (Anhui Province not included) shows the following: 7,070 or 69.4 percent had earnings of more than 300 yuan and less than 400 yuan; 1,992 or 19.6 percent had earnings of more than 400 yuan and less than 500 yuan; 1,062 or 10.4 percent had earnings of more than 500 yuan and less than 1,000 yuan; and 65 or 0.6 percent had earnings of more than 1,000 yuan. Maximum distribution was in the Lohu Production Brigade, Fucheng Commune, Shenchuan City, Guangdong Province where earnings averaged 3,535 yuan per capita.

Among the 29 provinces, municipalities and districts, those having a sizeable percentage of brigades with per capita earnings distributions of more than 300 yuan were the following: Shanghai Municipality with 644 or 21.5 percent; Beijing Municipality with 394 or 9.8 percent; Guangdong Province with 1,664 or 6.1 percent; Qinghai Province with 190 or 5.1 percent; Tianjin Municipality with 177 or 4.6 percent; Jilin Province with 308 or 3.0 percent; Shandong Province with 2,518 or 2.9 percent; Liaoning Province with 431 or 2.7 percent; Nei Monggol Autonomous Region with 318 or 2.5 percent; Anhui Province with 754 or 2.5 percent; Heilongjiang Province with 292 or 2.1 percent; Jiangsu Province with 682 or 1.9 percent; Zhejiang Province with 660 or 1.6 percent; and Xinjiang-Uighur Autonomous Region with 119 or 1.6 percent.

Rural People's Communes
Average Per Capita Distributions by Collective, 1981

Place	1981 vs 1980 Increase or Decrease			
	1981	1980	1981 vs 1980 + or -	Increase or Decrease percent
National Total	10943	5569	+5374	+ 96.5
Beijing Municipality	394	206	+ 188	+ 91.3
Tianjin Municipality	177	131	+ 46	+ 35.1
Hebei Province	347	154	+ 193	+125.3
Shanxi Province	314	204	+ 110	+ 53.9
Nei Monggol Autonomous Region	318	149	+ 169	+113.4
Liaoning Province	431	317	+ 114	+ 35.9
Jilin Province	308	85	+ 223	+262.3
Heilongjiang Province	292	305	- 13	- 4.3
Shanghai Municipality	644	588	+ 56	+ 9.5
Jiangsu Province	682	249	+ 433	+173.9
Zhejiang Province	660	519	+ 141	+ 27.1
Anhui Province	754	15	+ 739	+ 49.3
Fujian Province	97	54	+ 43	+ 79.6
Jiangxu Province	104	49	+ 55	+112.2
Shandong Province	2518	698	+1820	+260.7
He'nan Province	136	81	+ 55	+ 67.9
Hubei Province	160	59	+ 101	+171.2
Hunan Province	138	49	+ 89	+181.6
Guangdong Province	1664	737	+ 927	+125.8
Guangxi-Zhuang Autonomous Region	17	12	+ 5	+ 41.7
Sichuan Province	98	59	+ 39	+ 66.1
Guizhou Province	0	1	- 1	
Yunnan Province	16	13	+ 3	+ 23.1
Tibet Autonomous Region	241	448	- 207	- 46.2
Shaanxi Province	59	45	+ 14	+ 31.1
Gansu Province	62	53	+ 9	+ 20.8
Qinghai Province	190	173	+ 17	+ 9.8
Ningxia-Hui Autonomous Region	3	2	+ 1	+ 50.0
Xinjiang-Uighur Autonomous Region	119	114	+ 5	+ 4.4

Distribution of Brigades Having Earnings of More Than 300 Yuan

Units: Per 1

Brigades with over 300 yuan as percentage of total number	Breakdown of brigades averaging more than 300 yuan			
	Above 300 below 400 yuan	Above 400 below 500 yuan	Above 500 below 1000 yuan	Above 1000 yuan
1.5	7070	1992	1062	0
9.8	288	70	36	0
4.6	103	34	40	0
	271	46	30	0
	218	41	53	2
2.5	192	70	56	0
2.7	329	65	37	0
3.0	256	42	10	0
2.1	199	60	33	0
21.5	464	113	62	5
1.9	524	112	36	10
1.6	511	101	46	2
2.5	79	10	8	0
	79	18	7	0
2.9	1731	533	227	27
	109	21	6	0
	110	30	20	0
	119	11	8	0
6.1	935	439	271	19
	8	3	6	0
	88	7	3	0
	0	0	0	0
	10	3	3	0
	162	63	16	0
	35	16	8	0
	37	17	8	0
5.1	123	48	19	0
	3	0	0	0
1.6	87	19	13	0

Analysis of Counties Having Average Per Capita Earnings Distributions of More Than 300 Yuan in 1981

Since the 3d Plenary Session of the 11th Party Central Committee, the situation in the country's rural villages has become increasingly better. Everywhere commune member earnings have risen, and the number of well off counties increase year by year. Counties in which earnings distributions averaged more than 300 yuan per capita numbered only 4 for the entire country in 1979. In 1980 the number increased to 22, and in 1981 to 49. This fully reflects the correctness of the CCP Central Committee's espousal of the need for agriculture to "rely on policies and rely on science."

In 1981, the 49 well-off counties (including county level municipalities and districts, the same applying subsequently) were distributed throughout 12 provinces, municipalities, and regions. This included nine in the Tibet Autonomous Region, eight in the Nei Monggol Autonomous Region, seven in Guangdong Province, four in Beijing Municipality, four in Shanghai Municipality, four in Shandong Province, four in Qinghai Province, three in Jiangsu Province, two in Liaoning Province, two in Gansu Province, one in Zhejiang Province, and one in Heilongjiang Province.

Among these well-off counties, those in which average per capita distributions were more than 400 yuan numbered nine. They were the Haidian District of Beijing with 474.50 yuan, the Shinan District and the Sifang District of Qingdao Municipality in Shandong Province with 405 yuan and 473 yuan respectively, the Eergunazuo Banner in the Nei Monggol Autonomous Region with 405 yuan (farming zone); the suburbs of Foshan City in Guangdong Province with 455.98 yuan; Kaer County in the Tibet Autonomous Region with 460.72 yuan (pastoral zone), Ritu County in the Tibet Autonomous Region with 455.12 yuan, Akesai County in Gansu Province with 404.03 yuan (pastoral zone), and Maduo County in Qinghai Province with 475.31 to occupy first place in the country.

Looked at in terms of area distribution and types of production, these well-off counties were all located in municipal suburbs and border pastoral regions. Suburban counties and districts devoted mainly to vegetable, meat, poultry, and egg, and industrial sideline production numbered 21 or 42.9 percent of the total number. Seventeen or 34.7 percent of the total number of well-off counties were located in border pastoral regions. Farming counties producing mostly grain and economic crops numbered nine or 18.3 percent of the total number of well-off counties. Counties devoted to the fishing industry numbered two or 4.1 percent of the total number of well-off counties.

Analysis of figures compiled in the annual earnings distribution report shows the following to be the main several traits accounting for these counties becoming prosperous first:

1. Proceeding from their own local realities to make full use of local advantages, engaging largely in one industry with some economic diversification in an effort to develop production and increase both collective and commune member income. A comparison of these well-off counties with counties in general shows that their economic structures have already undergone striking changes.

Analysis of data from 46 counties shows 24.9 percent of total earnings to have derived from farming, 0.3 percent from forestry, 5.8 percent from animal husbandry, 5.3 percent from the fishing industry, 60.4 percent from industrial sideline occupations, and 3.3 percent from other sources. Industrial sideline occupation production has already become the main source of income for these counties (most of these counties, not all of these counties).

2. Development from a natural economy of virtual self-sufficiency to a commodity economy providing society many products and having a high commodity rate. According to statistical data from 30 counties in which average per capita distributions exceeded 300 yuan, the average commodity rate was 52.1 percent, 18.2 percent higher than the national 33.9 percent average. In 17 of the pastoral zone counties the commodity rate was 63.5 percent, and in 2 of the fishing industry counties, the commodity rate was 79.9 percent.

3. Abundant collective accumulated wealth with a large average per capita amount of fixed assets, and strong capabilities for expanding reproduction. Statistical data from 32 counties show the value of fixed assets per capita of agricultural population to average 454 yuan, between two and three times higher than the national average figure. This included 14 suburban counties in which the average per capita value of fixed assets was 852 yuan, between five and six times higher than the national average figure. In 1981, these well-off counties collective withholdings averaged 21.5 percent of net income, between 9.3 percent and more than double the national average figure.

4. Overall, the economic benefits of these well-off counties endeavors were high. Net income per capita averaged 513.60 yuan, more than three times higher than the national average of 119.70 yuan. In suburban counties, it was 623.80 yuan; in fishing industry counties it was 586.40 yuan; in animal husbandry industry counties it was 445.40 yuan; in agricultural counties it was 386 yuan, or 4.2, 3.9, 2.7, and 2.2 times higher respectively than the national average figure.

Remarkable Reduction Nationally in Numbers of Poor Counties and Poor Brigades in 1981

Despite fairly severe natural calamities in 1981, the number of poor counties and poor brigades in the country continued to decline, and remarkable changes continued to take place in some poor counties and poor brigades that had endured hardships for a long period of time.

Statistics from 29 provinces, municipalities, and autonomous regions show the number of poor brigades with average per capita collective distributions of less than 50 yuan to have declined from 1.43 million in 1980 to 1.18 million in 1981, poor brigades being 27.3 percent of the total number for a 19.88 percent decline. In 1981, counties with average collective distributions of less than 50 yuan numbered 211, 67 percent fewer than in 1980 for a 24.1 percent decline.

Table Showing Distribution of Counties Having Per Capita Distributions Averaging More Than 300 Yuan in 1981

Province, Municipality or District	Number of Countries	Name of County, (Municipality, Banner or District)	Average Per Capita Dis- tribution (yuan)
Beijing Municipality	4	Haidian District	474.50
		Fengtai District	396.30
		Shijingshan District	376.80
		Chaoyang District	335.80
Shanghai Municipality	4	Baoshan County	377.00
		Chuanshan County	371.00
		Jiading County	352.00
		Shanghai County	348.00
Heilongjiang Province	1	Mohe County	391.00
Shandong Province	4	Sifang District,	473.00
		Qingdao City	
		Shinan District,	402.00
		Qingdao City	
		Cangkou District,	352.00
		Qingdao City	
		Changdao County	314.00
Liaoning Province	2	Changhai County	354.00
		Ganjingzi District,	302.00
		Dalian City	
Zhejiang Province	1	Jianggan District,	334.33
		Hangzhou City	
Tibet Autonomous Region	9	Kaer County	460.27
		Ritu County	455.12
		Pulan County	355.17
		Guan District,	353.06
		Lhasa City	
		Shuanghu Office	338.84
		Zhada County	336.45
		Zhangmukouan	334.21
		Geiji County	307.95
		Yadong County	302.99
Nei Monggol Autonomous Region	8	Eergunazuo Banner	405.00
		Xinbaerhuyou Banner	388.00
		Chenbaerhu Banner	365.00
		Eergunayou Banner	362.00
		Ejina Banner	346.00
		Xinbaerhuzuo Banner	329.00
		Sunitezuo Banner	319.00
		Manzhouli City	307.86

Guangdong Province	7	Foshan City suburbs	455.98
		Shunde County	377.75
		Nanhai County	360.84
		Zhongshan County	336.82
		Zhuhai City	322.00
		Zhaoqing City suburbs	311.74
		Dongguan County	318.60
Qinghai Province	4	Maduo County	475.31
		Tianjun County	370.35
		Qumalai County	324.48
		Geermu City	323.73
Gansu Province		Akesai County	404.03
		Subei County	368.70
Jiangsu Province	3	Wuxi City	353.18
		Changzhou City	328.00
		Suzhou City	314.00
National Total	49		

Particularly heartening was that in some poor brigades that had endured hardships for a long period of time production developed fairly rapidly, and commune member earnings levels remarkably increased. Of the 165 poor counties in which average per capita collective distributions had been less than 50 yuan for the three consecutive years of 1977 to 1980, 88 now have collective distributions averaging more than 50 yuan per capital, 9 such counties having per capita average distributions of more than 100 yuan, 6 such counties having average per capita distributions of between 80 and 100 yuan; 39 such counties averaging between 60 and 80 yuan, and 34 counties averaging between 50 and 60 yuan. Among these 88 counties, 25 are in Guizhou Province, 9 in He'nan Province, 6 in Hebei Province, 6 in each of Anhui and Shandong Provinces, 5 in each of Shaanxi, Fujian, Xinjiang, and Nei Monggol, 4 in Yunnan Province, 2 in each of Jiangsu, Sichuan, and Guangxi Provinces, and 1 in each of Gansu, Shanxi, Ningxia, Zhejiang, and Guangdong Provinces. The poor counties in Hebei, Anhui, Sichuan, Jiangsu, and Guangdong Provinces have been changed for more than 3 consecutive years, and there are a total of 15 provinces in the country that have been without poor counties for more than 3 consecutive years.

The main reason for the change in these counties is, in an overall sense, the decisive role of the line, programs, and policies since the 3d Plenary Session of the 11th Party Central Committee. Specifically, they have had the following several main features. First is adaptation of general methods to local situations for promotion of various forms of production responsibility systems.

Since the 3d Plenary Session of the 11th Party Central Committee numerous communes and brigades in hardship prefectures have instituted production responsibility systems fixing output quotas on a household basis and households assuming full responsibility for task completion, which has stirred peasant enthusiasm and hastened the curing of poverty. Second was adaptation of general methods to local situations to readjust agricultural production patterns. In Shandong, the four northwestern prefectures readjusted the proportional area devoted to the growing of grain and cotton to make the most of advantages in

cotton production. During the 3 consecutive years from 1977 to 1979, 22 of the counties in those 4 prefectures were poor counties with per capita collective earnings averaging less than 50 yuan. In 1980, 17 of them changed, and in 1981 another 4 changed. In 1981 the cotton growing area of Dezhou Prefecture was increased from the 1.6 million mu that it had been in 1979 to 3 million mu and gross output of cotton increased by more than three times. Despite a more than 1 million mu reduction in the grain growing area, total grain output increased by 500 million jin over the 2.78 billion jin of 1978 to reach an all-time high. Following the 3d Plenary Session of the 11th Party Central Committee, Qingtian County in Zhejiang Province took account of local strengths to make a change away from the lopsided emphasis on "taking grain as the key link," which was divorced from local realities, to institute a program of "taking forests as the key link with simultaneous development of forests, grain, and livestock in economic diversification for all around development of the mountain area economy." In 1981 results became very apparent when total output of grain increased by more than 20 million jin over 1980 with commune member average per capita collective distributions amounting to 70.53 yuan, a 30 yuan increase over 1980.

Third, full use of the role of funds to support the poor in an effort to change production conditions. In recent years the state has reduced or exempted payment of agricultural taxes and fulfillment of grain purchase quotas to lighten the load on the peasants. It has, at the same time, allotted funds to help and support development of hardship prefectures. The two prefectures of Yan'an and Yulin in Shaanxi Province use special state funds for the support of the reconstruction of northern Shaanxi to repair farmlands, reservoirs and ditches, to transform slopes and ravines, to erect power lines, and to construct highways to improve agricultural production conditions and to hasten the pace in curing the poverty of more than 3,000 brigades that received assistance. Twenty-five percent of these poor brigades have already substantially changed their circumstances, and striking changes have taken place in 65 percent of them. Chuxian Prefecture in Anhui Province adhered to the principle of support for the poor, support of will, and support with capital, basing itself on development of production. It helped poverty stricken prefecture masses to establish the confidence and the will to bravely overcome hardships and work to become prosperous, helping them improve conditions for reproduction, for development of production, to increase earnings, and to cure poverty at its source.

However, inasmuch as natural conditions in some hardship prefectures are poor and basic production levels low, plus the failure of work to keep apace, and such diverse reasons, in 1981 there were still 87 counties in the country in which average per capita collective distributions were below 50 yuan for more than 3 consecutive years. These poor counties are distributed among 14 provinces of Gansu, Yunnan and Guizhou. These 3 provinces still have 61 counties, 70.1 percent of the total number of poor counties in the country. Naturally, in these places fairly great development has also taken place in household sideline occupations, and the standard of living of most of the masses has also improved in varying degrees.

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RICE DISEASE PREVENTION FORUM HELD IN CHANGSHA

OW081350 Beijing XINHUA Domestic Service in Chinese 0016 GMT 7 Aug 82

[Excerpts] Changsha, 7 Aug (XINHUA)--Some workers, experts and professors in plant protection in the country recently attended a forum in Changsha Municipality, Hunan Province, on comprehensive prevention and treatment of paddy rice diseases and insect pests in south China's 13 provinces, municipalities and autonomous regions, after analyzing actual conditions in various localities, participants held that late rice diseases and insect pests tend to be serious this year and suggested that localities should take measures as soon as possible for the comprehensive prevention and treatment of such diseases and insect pests in order to wrest a good harvest of late rice. [passage omitted]

Participants in the forum reviewed the prevention and treatment of paddy rice diseases and insect pests in the past. In 1980 and 1981, the prevention and treatment of paddy rice diseases and insect pests in our country covered more than 800 million mu of farmland a year. It was estimated that such prevention and treatment had reduced losses in rice production by more than 20 billion jin. [passage omitted]

Participants held that attention should be paid to the following several questions in preventing and treating late rice diseases and insect pests: 1) vigorous efforts should be made to popularize techniques for comprehensive prevention and treatment of rice diseases and insect pests; [passage omitted] 2) a good job should be done in detecting and reporting on rice diseases and insect pests, and it is necessary to have an accurate understanding of the developments of such diseases and insect pests; 3) it is necessary to scientifically apply insecticides and to suit them to the rice diseases and insect pests; [passage omitted] 4) it is necessary to take strict precautions against poisoning by insecticides. [passage omitted]

In August and September, when the prevention and treatment of late rice diseases and insect pests are in full swing, agricultural, commercial, public health and public security departments should send personnel to go the round of basic units and teach the masses to strictly abide by relevant regulations on the storage and use of insecticides.

CSO: 4007/46

GANSU

BRIEFS

GANSU GRAIN MARKETING--Jiuquan Prefecture, Gansu Province, so far, has marketed 76 million jin of grain to the state, an increase of 300 percent over the corresponding 1981 period. [Text] [SK130846 Lanzhou GANSU Provincial Service in Mandarin 1125 GMT 12 Aug 82]

CSO: 4007/46

SUPPLEMENTARY NOTICE ISSUED ON CHEMICAL FERTILIZER SALES

Guangzhou NANFANG RIBAO in Chinese 16 Jun 82 p 1

[Article: "Provincial People's Government Stipulates Sales To Protect Capital When Chemical Fertilizer Plants Produce Chemical Fertilizer Using Fuel and Raw Materials Purchased at Negotiated Prices; Strictly Forbidden To Sell List Price Chemical Fertilizer at Negotiated Prices; Violators Will Be Investigated and Responsibility Fixed"]

[Text] Recently the Provincial People's Government issued "Supplementary Notice on the Problem of Strengthening Unified Administration and Management of Chemical Fertilizer," which stipulated that when chemical fertilizer plants used fuels or raw and processed materials purchased at negotiated prices to produce chemical fertilizers, they may sell it at a price that will protect their capital.

Because supplies of fuel or raw and processed materials provided for in state plan have not been sufficient, many chemical fertilizer plants in Guangdong Province must augment them through purchases at negotiated prices outside of plan. In order to encourage chemical fertilizer plants to produce more chemical fertilizer to support agricultural production, the supplementary notice stipulated that chemical fertilizer produced by chemical fertilizer plants using fuels or raw and processed materials supplied within state plan were to be centrally purchased by agricultural means of production companies. Fuels or raw and processed materials cooperatively obtained outside of plan for the production of chemical fertilizer could be turned over to agricultural means of production companies for purchase on the principle of protection of capital. Amounts not purchased by agricultural means of production companies could be sold by plants in direct dealings between producer and marketers under centralized arrangements approved by the local people's government. Agricultural means of production companies and plants are to sign economic agreements for chemical fertilizer no matter whether produced inside or outside plan, and should agreements not be carried out, they are to be responsible for economic losses.

The supplementary notice also stipulated that in order to support agricultural production, agricultural means of production companies are to actively organize the purchase of province-produced chemical fertilizer purchased and marketed at negotiated prices, but that this portion of chemical fertilizer must be dealt in so as to protect capital with a strict distinction made in all dealings between it and list price chemical fertilizer within plan. It is strictly forbidden to sell list price fertilizer at negotiated prices to make a profit, and violators will be investigated and responsibility fixed.

GUIZHOU

BRIEFS

GUIZHOU COUNTY RAPESEED OUTPUT--Guiyang, 15 Aug (XINHUA)--The per-capita income of Zunyi County, Guizhou, was 303 yuan in 1981 compared with 92 yuan in 1976. In 1982 the county gathered 137 million jin of rapeseed, up 67.9 percent from the 1981 output. [Text] [Beijing XINHUA Domestic Service in Chinese 0101 GMT 15 Aug 82 OW]

CSO: 4007/46

PROVINCE TAKES NO CHANCES, STEPS UP FLOOD PRECAUTIONS

Conference Convened on Control Measures

Shijiazhuang HEBEI RIBAO in Chinese 25 Jun 82 p 1

[Article by Commentator: "Resolutely Overcome Paralyzed Thinking To Make Genuine Flood Prevention Preparations"]

[Text] At the recently convened provincial flood prevention work conference, all jurisdictions reported that a prominent problem in current flood prevention work is the existence everywhere of paralyzed thinking. Some people suppose that since weather forecasts for the province as a whole call for neither a large amount of rain nor torrential rains that there is no big problem, and that the large amount of rain and torrential rains forecast for some places will not necessarily occur. Some people suppose that with 4 and 5 years of continuous drought, the ground has become thoroughly parched, so even if 100 or 200 millimeters of rain falls no flood disasters will take place. Still others suppose that after having built so many projects on the Hai He to solve the problem at its source, even a large amount of water would not be anything to worry about. As a result of the foregoing paralyzed thinking, many places have given insufficiently serious attention to flood prevention measures this year; leaders have not acted, and measures for passing through the flood season safely have not been implemented. Unless this situation is quickly changed, this year's flood prevention work will be done very passively, and when suddenly faced with much rainfall and high water, everyone will be scurrying about and at a loss about just what to do, resulting in unnecessary losses. Consequently, overcoming paralyzed thinking is the premier problem in this year's flood prevention work, and leaders at all levels must accord it a high degree of serious attention.

Will Hebei Province have heavy rainfall and high water this year? This is something no one can say for sure. However, it must be realized that the province is located in the semi-arid zone of North China where the monsoon climate is fairly apparent, where differences in amount of rainfall from season to season and year to year are very great, and where differences also exist between one place and another. In certain areas, during or before the flood season, torrential rains and flood waters can occur at any time. Elements affecting weather changes are numerous. Right now science is still unable to fully understand weather changes, and weather forecasts can be used

only for reference and not as reliable data. Long-range forecasts, in particular, are not entirely accurate. Historically there have been very many discrepancies between forecasts and realities. The especially heavy torrential rains in Hebei Province during August 1963, and in Henan Province during August 1975 had not been predicted as being as heavy. Instances are even more numerous in which torrential rains within small areas had not been forecast. Therefore whether there will be a great amount of rain or torrential rains during this year's rainy season is something no one can guarantee. In doing flood prevention work, as between raining or not raining, we can only make preparations on the basis that it will rain, and as between much rain and little rain, we can only make preparations on the basis of much rain so that preparedness will avert disaster. The statement that there can be no great flooding in years of heavy drought is even more baseless. During 1979 central and southern Hebei prefectures had serious drought, but in the area between Qinglong and Qianxi in Yanshan, torrential rains occurred. At Sanbazi in Qinglong County, within a period of 7 hours 570 millimeters of rain fell. This amounted to the total amount of rainfall in ordinary years. During 1980 and 1981, the entire province experienced drought, but fairly powerful torrential rains occurred in Renqiu, Linxi, Qixian, and Guantao counties, some of them causing serious damage. During the height of the "one resistance and two guarantees" throughout the province this year, on 26 May between 60 and 70 millimeters of rain fell during a 45-minute period at Jiangjiadian Commune in Weichang County, inundating more than 20,000 mu, killing four people and 150 sheep and goats, and collapsing 25 houses. These facts show that in years of great drought, great floods are also possible, and alternation of droughts and floods is by no means rare. We certainly cannot allow drought to disarm our defenses against floods.

We have indeed built many projects to cure problems at their root on the Hai He; however, it must be realized that few of the projects built after 1964 have been tested by floodwaters. Additionally, most of the dikes on water-courses were constructed during the "Great Cultural Revolution," so quality along some dike sections is not good. In addition, destruction of dikes has been fairly severe during the past several years, so if a really large amount of water comes, what will happen is hard to anticipate. This is one thing. Another question is whether the advantageous conditions will be properly used. If they are not used right, not only will it be impossible to make the most of them, but greater damage may be created. Construction of a reservoir can prevent floods, but if it is badly managed, the sudden appearance of problems is like the release of a tiger in the mountains. Therefore, we cannot rest on existing projects and fall into a deep sleep.

A good job of flood prevention work this year holds particularly great significance for the province. Because of the protracted serious drought, the province's summer harvest has been impaired this year, and this increases the task of increasing output from the fall crop. But the key to assuring a greater increased output from the fall crop lies, in addition to active efforts by everyone, in triumphing over the possible occurrence of flood and waterlogging damage. If this battle is won, there is hope that the fall harvest will make up for the deficiencies of the summer harvest. A good job of flood prevention work in the province also bears directly on the major

matter of assuring the safety of the capital, Tianjin, and the oilfields of North China, and we must make sure that all are perfectly safe. This requires that all levels of the party organization and of government throughout the province must give a high degree of serious attention to flood prevention work, genuinely strengthen leadership, and give attention to this task as an important one during the next several months. It is necessary to educate the masses of cadres in overcoming paralyzed thinking and a psychology of trusting to luck so as to take action quickly and do a good job of flood prevention preparatory work. They should establish and perfect flood prevention organizations at all levels, organize flood prevention teams, and put into effect systems of personal responsibility. They should conduct comprehensive inspections of all flood prevention measures, carrying them out one by one. Leaders at all levels are to delve into realities and carry out on site investigation and study to promptly discover and solve existing problems. Once heavy rains and much water come, the entire party and all the people are to be mobilized to wage an overall war to prevent and resist flooding. We believe that under the leadership of the CCP Central Committee and the Provincial CCP Committee, the people of the province will certainly be able to win all around victory in the struggle to prevent floods.

Attention Focused on Dilapidated Dike, Ditch Systems

Shijiazhuang HEBEI RIBAO in Chinese 25 Jun 82 p 1

[Article: Institute Safety Measures To Meet Flood and Waterlogging Disasters Head on Is Requirement of All Jurisdictions at Provincial Government-Convended Flood Prevention Work Conference"]

[Text] In mid-June, the provincial government convened a province-wide flood prevention work conference at Shijiazhuang in which it required that all jurisdictions resolutely surmount paralyzed thinking and diligently institute measures to get through the flood season to win victory over the heavy rains and large flooding that may occur so as to assure the safety of the two cities of Beijing and Tienjin, the oilfields, the railroads, national defense installations, and the lives of the people in the province as a whole, and to win a bumper fall harvest.

The conference noted that as a result of the serious drought in the province for the past 4 and 5 years, people long for water with all their heart, and thus paralyzed thinking exists virtually everywhere about flood prevention work, and the seriousness of this paralyzed thinking is not realized by some leadership comrades. They have not worked hard to resolve this thinking, so flood prevention preparations have been very insufficiently done. As a result, a good job in flood prevention this year requires, first of all, solution to the leadership problem. Leaders at all levels are required to resolutely overcome paralyzed thinking, genuinely strengthen leadership of flood prevention work, treat flood prevention work as a major task during the next several months, and make probing inspections, continuous inspections, and repeated inspections to uncover problems and promptly solve them so that every measure for getting safely through the flood season will be put into practice.

The conference acknowledged that a major problem in this year's flood prevention work is that following institution of agricultural responsibility systems, for the sake of planting a little more land, many places destroyed or disrupted ditches for the draining away of waterlogging. This is extremely bad for good flood prevention work. Leaders at all levels are to direct a high degree of serious attention to this and take whatever action the situation requires to prevent unnecessary damage from occurring should heavy rains and great flooding suddenly occur. In addition, they should ready dikes, floodgates and culverts to get safely through the flood season. Leadership cadres are to make divisions of labor and assign responsibility for reservoirs, for work increments, and for certain tracts; they should establish and perfect personal responsibility systems, organize emergency squads, and make material preparations; they should ready communications links and flood situation monitoring and reporting.

The conference noted that doing a good job of city and town flood prevention is a major aspect of the province's flood prevention work. All prefectures and municipalities should diligently put into effect the special documents and notices issued by the State Council, the Ministry of Water Conservancy and Power and the former State Urban Construction Administration, and they should learn the lessons of last year in Sichuan to adopt effective measures for assuring that cities, town, and their various projects get through the flood season safely.

The conference repeatedly noted that many years practice has demonstrated that during the summer and fall Hebei Province both faces the threat of great waterlogging and may be stricken with "choking drought." Therefore, a mentality of attention both to combating drought and eliminating waterlogging must be resolutely established. If either one is neglected, any thought of fulfilling this year's agricultural production quotas will be impossible. Therefore, all jurisdictions must combat drought on the one hand and prepare to prevent floods on the other, triumphing over drought and flood disasters to win a bumper autumn harvest.

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CSO: 4007/469

BRIEFS

WHEAT HARVEST--The wheat harvest is near completion in Heilongjiang Province's reclamation areas. As of 5 August, reclamation areas harvested 10.40 million mu of wheat, 87 percent of the total. Average per-mu yield of wheat reached 170 jin. The (Jiusan) agricultural administrative bureau harvested 1.35 million mu of wheat and per-mu yield averaged at 273 jin. [Text] [SK080048 Harbin HEILONGJIANG Provincial Service in Mandarin 1100 GMT 6 Aug 82]

WATER IMPROVEMENT--Over the past 3 years, the state has invested 22.6 million yuan for Heilongjiang Province to improve the drinking water for the people in endemic disease areas. The funds were used to sink 1,600 deepwater wells, 600 of which were sunk in Suihua and Nenjiang Prefectures where endemic disease areas are comparatively extensive. This has improved the drinking water for some 800,000 people, among whom 300,000 people are able to have tap water. [Text] [SK130756 Harbin HEILONGJIANG Provincial Service in Mandarin 1100 GMT 12 Aug 82]

WATER-DIVERSION PROJECT--The state-invested project to divert Nen Jiang water into (Lianhuan) Lake, which was initiated in 1980, is basically complete. So far 2.6 billion cubic meters of water have been diverted through a 160 km-long channel into the lake that is storing 700 million cubic meters of water. The project will benefit the 9,000 square km of valley along the channel, which includes 1.6 million mu of farmlands, 5 million mu of grasslands, 1.7 million mu of reed ponds and 1 million mu of lakes. The (Lianhuan) Lake is the largest aquatic product breeding farm in Heilongjiang Province. It is composed of 17 small lakes with 750,000 mu of water area. [Text] [Harbin HEILONGJIANG Provincial Service in Mandarin 1100 GMT 12 Aug 82]

NORTH CHINA ANIMAL HUSBANDRY CONFERENCE--Under the sponsorship of the Ministry of Agriculture, Animal Husbandry and Fishery, the North China Animal Husbandry Work Conference was held in Harbin on 6-15 August. The conference urged efforts to raise economic results in animal husbandry, speed up its development, and support specialized households. Participants discussed ways to improve responsibility systems in animal husbandry and grassland management and to establish industry-commerce integrated enterprises. Experiences in developing animal husbandry were introduced at the conference. [Text] [SK181049 Harbin HEILONGJIANG Provincial Service in Mandarin 1100 GMT 17 Aug 82]

RESERVOIRS--Reservoirs in Heilongjiang Province have played an important part in farming. At present, 1.26 million mu of paddy and dry fields are benefited by the province's 669 large, medium-sized and small reservoirs, an increase of 20 percent over 1981. The growing situation of paddyfields in the irrigated areas is good and a bumper harvest is in sight. [Text] [Harbin HEILONGJIANG Provincial Service in Mandarin 2200 GMT 12 Aug 82]

WHEAT HARVEST--In 1982, 14 counties across Heilongjiang Province, including Bayan, Hulan, Shuangcheng, Bin, Acheng, Wuchang, Mulan, Tonghe, Gangzheng, Yanshou, Shangzhi, Anda, Suihua and Yilan, grew over 1.5 million mu of wheat and fulfilled the wheat harvest plan. According to the initial statistics, these 14 counties have planted autumn vegetables and forage crops on 450,000 mu of wheat stubbleland. [Text] [SK051300 Harbin HEILONGJIANG Provincial Service in Mandarin 1100 GMT 1 Aug 82]

TAIWAN COMPATRIOTS MEETING--A preparatory group for the Heilongjiang Provincial Taiwan Compatriots Association recently established and held its first meeting, which decided to hold the first provincial representative meeting of the association in September of this year. [Text] [Harbin HEILONGJIANG Provincial Service in Mandarin 1100 GMT 4 Aug 82]

CSO: 4007/46

HENAN RADIO ENCOURAGES PEASANTS TO GET RICH

HK150357 Zhengzhou HENAN Provincial Service in Mandarin 1100 GMT 14 Aug 82

[Station commentary: "Take A Firm and Clear-cut Stand and Encourage and Support the Peasants to Get Rich Through Hard Work"]

[Excerpts] Since the 3d Plenary Session of the 11th Central Committee, in the wake of the gradual implementation of the party's rural economic policies, a number of peasant households who have got rich through hard work have emerged throughout Henan. [passage omitted] Practice has proven that the series of principles and policies adopted by the central committee since the 3d Plenary Session are completely correct. Like Zhongmou County CPC Committee, we should take a firm and clear-cut stand and encourage and support these peasants who have taken the lead in following the path of getting rich through hard work.

It should be noticed that in some places the demarcation line between getting rich through hard work and committing economic crimes has been blurred. As a result the masses have become ideologically confused and the development of production has been affected. The main reason is that some people are still haunted by leftist thinking. They are full of apprehensions over the rural policies laid down since the 3d Plenary Session and lack clear understanding of the new conditions and problems that have currently emerged in the rural areas. The moment there are signs of trouble, they are in the habit of going back to the former road. They are jealous of those who make a big income and become rich quickly. They are always hankering for a return to eating out of a big pot. As a result, those peasants who work hard to get rich through labor become worried and hesitant and even abandon their efforts. Unless this problem is solved, it will hamper the peasants' enthusiasm and the development of the excellent situation in the rural areas. [passage omitted]

Rural peasants, boldly follow the road of getting rich through hard work with minds at ease! Rural party members and cadres uphold the party policies and actively and enthusiastically support and lead the peasants to forge ahead in the direction pointed out by the party! Let us greet the victorious convention of the 12th Party Congress with practical deeds.

CSO: 4007/46

PREFECTURE'S PEASANTS CARRY OUT SELF-SALVATION

HK161146 Zhengzhou HENAN Provincial Service in Mandarin 1100 GMT 14 Aug 82

[Summary] Inspired by the spirit of the 7th Plenary Session of the 11th CPC Central Committee, the Xinxiang Prefectural CPC Committee and administrative commissioner's office have actively led the masses in the stricken areas to carry out self-salvation through production following floods and to rely on their own efforts to rebuild their homes. With practical actions, they are going to greet the holding of the 12th Party Congress.

"There was continuous, heavy and torrential rain in Xinxiang Prefecture at the end of July and the beginning of August. The rainfall in Jiyuan, Meng, Hui, Ji, Wen Qinyang, Xiuwu and Boai Counties was over 400 millimeters and in some places, was as high as 700 to 800 millimeters. In addition, the adjacent Xhanxi Province also had continuous torrential rain so that torrents of water rushed down the mountains, river water levels rose quickly and reservoirs overflowed. The Qinhe River rose to its highest level in 100 years. The water levels of the Manghe River, the Weihe River and the Gongchanzhuyi Channel greatly exceeded the antiflood standards, causing serious losses in lives. On 8 August, when the flooding subsided, the prefectural CPC committee immediately held a meeting of its standing committee to study the communique of the 7th Plenary Session of the 11th CPC Central Committee and to look into the work of self-salvation through production." They have taken three measures, as follows:

First, the prefectural CPC committee and the administrative commissioner's office have sent personnel to reinforce the relief offices that were established. They have also sent two leading cadres to take charge of relief work. They have demanded that all counties strengthen relief work and send cadres into stricken communes and brigades in order to mobilize the masses to help one another. They have supplied a certain amount of grain, materials and relief funds to the seriously stricken communes and brigades in order quickly to solve the problems of food, clothing, shelter and medical treatment for the victims. On 12 August, the prefectural CPC committee sent seven work groups into Jiyuan, Meng, Qinyang, Wuzhi, Ji, Yuanyang and Hui counties, which suffered serious damage. These groups helped the masses to overcome their difficulties and led them to carry out the struggle against the disaster.

Second, the prefectural CPC committee and the administrative commissioner's office have demanded that the victims assert their revolutionary spirit and do well in current production. The victims must rely on their own efforts to carry out self-salvation through production. They must strengthen the tending and protection of the autumn crops that were only slightly damaged by floods in order to strive for a good harvest. Regarding crops for which there is no hope of a harvest, they must seize the opportunity to cultivate vegetables as a substitute in order to make up the losses in grain with vegetables. They must take measures to drain water in the waterlogged places and make good preparations for sowing wheat. Meanwhile, the prefectural CPC committee and the administrative commissioner's office must call on the masses to open all avenues for diversification in order to make up the agricultural losses with other products.

Third, the current flood season is not yet over and even bigger floods are likely to happen. The prefectural CPC committee has demanded that all counties quickly repair all kinds of water conservation projects and anti-flood facilities, dredge drainage channels and do well in antiflood work. They have made additional good preparations against flooding to ensure the safety of people's lives and property.

CSO: 4007/46

BUYING, SELLING IN RURAL AREAS IS BRISK

HK180933 Zhengzhou HENAN Provincial Service in Mandarin 1100 GMT 17 Aug 82

[Text] Since the 3d Plenary Session of the 11th CPC Central Committee, in rural commerce in Henan Province, buying and selling has been brisk and the market has thrived. The amount of net purchases and sales transacted by the supply and marketing cooperatives and their affiliated organizations throughout the province in 1981 were 57.1 and 29.5 percent respectively more than in 1978. The quantity of the major agricultural and sideline products procured and the quantity of the main means of production and subsistence supplied have increased relatively greatly.

Over the past few years, as rural areas have implemented the production responsibility system, the production of agricultural and sideline products has developed relatively quickly and ample supplies of materials have facilitated procurement work. The amount of cotton, tobacco leaves and tea procured in the whole province in 1981 were 75, 32 and 97 percent respectively more than in 1978. Due to negotiated purchase and sale of the third category materials, miscellaneous grains and fruits and due to there being many circulation channels, the market has thrived even more.

Following the heightening of peasants' enthusiasm for production, the supplies of the means of agricultural production have greatly increased. The total value of the means of agricultural production supplied in 1978 was 472.91 million yuan and the total value of the means of agricultural production supplied in 1981 went up to 647 million yuan, an increase of 37 percent. The quantity of chemical fertilizers supplied has doubled, the quantity of chemical fertilizers supplies has doubled, the quantity of agricultural chemicals, and urea supplied has increased by 126 percent and the quantity of other materials supplied, such as plastic sheets for agricultural use, small agricultural tools and draft cattle is far more than before.

Many economic sectors and many forms of transactions have coexisted and there are many circulation channels in the rural market. The sales of all kinds of industrial products have greatly increased. The purchasing power of the rural areas throughout the province last year was 45.2 percent greater than in 1978 and was 6.9 percent greater than that of the urban areas. The total value of the means of subsistence supplied in the rural areas in 1981 was 20.6 percent more than in 1978. The number of bicycles sold in rural areas in our province last years was some 318,000, 151,000 more than in 1978. The number of sewing machines sold last year was some 303,000, some 167,000 more than in 1978.

CSO: 4007/46

BRIEFS

RAINS CAUSE CHANGJIANG FLOOD--The people along the Changjiang in Hubei have overcome the first relatively big flood of the year. There has been continuous torrential rain in parts of the upper reaches of the Changjiang since early July, causing a relatively great flood on the river in Hubei. The water level and flow were high, and the high level lasted a long time in the Jingjiang sector. In view of this, the provincial CPC committee and the party committees at all levels strengthened leadership, carried out prompt studies and made arrangements. The principal leading comrades of the prefectural, municipal and county CPC committees led the masses to deal with the danger spots. The communications, posts and telecommunications, commerce and other departments concerned worked closely together. Thanks to the hard work of the province's 200,000-strong flood-fighting course, the safety of the embankments was eventually assured. At present the Hubei areas along the river are taking advantage of the falling water level to take stock of materials, overhaul equipment, improve dangerous sections and prepare for a further possible flood. [Text] [HK140349 Wuhan HUBEI Provincial Service in Mandarin 1100 GMT 13 Aug 82]

CSO: 4007/46

HUNAN

BRIEFS

HUNAN COUNTY GRAIN OUTPUT--Changsha, 15 Aug (XINHUA)—In 1981, Yuanjiang County, Hunan, produced 756 million jin of grain and supplied to the state some 272 million jin of commercial grain. The county's per-mu grain yield was 1,337 jin in 1981 compared with 925 jin in 1978. [Text] [Beijing XINHUA Domestic Service in Chinese 0020 GMT 15 Aug 82 OW]

CSO: 4007/46

ALL-TIME HIGH YIELDS OF WHEAT, BARLEY, AND NAKED BARLEY REPORTED

Nanjing XINHUA RIBAO in Chinese 7 Jul 82 p 1

[Article: Numerous Counties in Province Set New Records in Total Summer Grain Output. News of Victory Keeps Pouring IN; Glad Tidings Abound"]

[Text] Recently everywhere in the province news of victory has poured in about the bumper summer harvest, and glad tidings abound. In addition to Yixing County, which was formerly reported, counties having a more than 100 million jin increase in summer grain output this year include Shuyang County in Huaiyin Prefecture, and Wyjin County in Zhenjiang Prefecture.

This year a largenumber of counties in the province have had record breaking outputs of summer grain. These were Fengxian, Suining, and Donghai counties in Xuzhou Prefecture, Sheyang, Funing, Binhai, Xiangshui, and Dafeng counties in Yancheng Prefecture, Shuyang, Huaiyin, Gyanyun, Junan, Siyang, Guannan, Suqian, Lianshui, Sihong, Hongze, Xuyi, and Jinhu counties in Huaiyin Prefecture, Yizheng, Gaoyou, Maoying, Taixing, and Hanjiang County in Yangzhou Prefecture, Dantu, Wujin, Jurong, Jintan, Lishui, Gaochun, Liyang, and Yixing counties in Zhenjiang Prefecture, Haian and Rudong counties in Nantong Prefecture, Kunshan County in Suzhou Prefecture as well as Liuhe County, Jiangpu County, Pi County, Wu County and Jianhu County, which respectively produced increases of 80 million jin, 97 million jin, and ~~ww~~ million jin more than last year.

Jiangsu Province's famed wheat, barley and naked barley producing area of Yangzhong County increased summer grain output this year by 25 percent over last year.

This year's summer harvest also brought forth quite a few units and fields producing high yields of wheat, barley, or naked barley. The Picheng Commune Farm Science Station in Pi County planted Jinan No 13 wheat on a 221.77 mu continuous tract, inspection of which by prefecture and county science committee and agricultural unit technicians in accordance with Provincial Science Committee high yield acceptance requirements showed yields averaging 1,046.5 jin per mu, with 47.88 mu producing yields averaging 1,129.8 jin per mu. Under the guidance of teachers at the Nanjing Academy of Agricultural Sciences, the Yezhuang Production

Brigade in Shuyang County grew 114.38 mu of Huaimai No 11 wheat on high yeild experimental fields, which produced yields averaging 1,016.2 jin per mu as authenticated by the prefecture, the county, the commune, and the production brigade. Authentication showed 3.27 mu of Aizao No 3 barley at Chenwuba Brigade in Lugou Commune, Jianhu County to have average yields of 1,111.8 jin per mu, establishing a new record for Jianhu County's high yield wheat, barley, and naked barley fields.

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CSO: 4007/483

PROVINCE'S GRAIN, RAPESEED PRODUCTION REPORTEDLY BREAKS RECORDS

Nanjing XINHUA RIBAO in Chinese 4 Jul 82 p 1

[Article: "Province's Summer Grain Output Increase of 2.5 Billion Jin Breaks All-time Record According to Most Recent Statistics From Units Concerned. Province as a Whole Overfulfills Summer Grain and Edible Oil State Purchase Quotas"]

[Text] According to statistics from departments concerned, total summer grain output by all the people and collectives for the province this year amounts to 17.279 billion jin, a 2.512 billion jin increase over last year for a 17 percent increase, which is three percent higher than the all time record. Total output of rapeseeds by all the people and collectives amounted to 10.64 million dan, a 49.3 percent increase over last year's all-time high. Numerous places have reported that "the more of the summer harvest reaped the greater the amount."

The outstanding characteristic of this year's increased output of grain and rapeseed in the province has been the universal increase in output. Sixty of the province's 68 counties (or municipalities) have had increased summer grain outputs, and this has included 38 counties in which total output exceeded the all-time record. Fifty-three counties had increased rapeseed yields, 24 of them doubling total output. In numerous counties (and municipalities) every commune had an increased harvest.

Following the bumper summer grain and rapeseed harvest, the broad masses of rural cadres and commune members were ecstatic, and their zeal for achieving outputs in excess of quota from the autumn harvest increased. All jurisdictions are now basing themselves on combat against calamity in actively working hard to remove weeds, to give sidedressings of fertilizer, to ward off disease and control insect pests, to clear ditches, and such field care activities in an effort to win a bumper autumn harvest.

This year when a bumper summer harvest of rapeseed and grain was reaped, the broad masses of rural commune members eagerly turned over to the state their public grain and sold surplus grain. As of the end of June, summer grain stored throughout the province amounted to more than 3.6 billion jin for a 112.5 percent fulfillment of state plan, more than

1.1 billion jin more being in storage than during the same period last year. Rapeseed in storage amounted to more than 660 million jin for a 120 percent fulfillment of state plan and a 2.2 fold increase over the same period last year. Just before the summer grain was harvested the Provincial CCP Committee and provincial people's government required all jurisdictions to strengthen leadership over summer grain and edible oil state purchase work, required good ideological work following the bumper harvest for correct handling of the relationship among the country, the collective, and individuals, and required good organizational work for storing state purchased grain and oil. During the period of state purchases, party and government leaders in all jurisdictions gave attention to the storage of summer grain and oil as a task of major importance.

In view of this year's large amount of state purchased grain and oil sent to storage, the number of trips necessary to transport the grain, the concentrated period of time of sales, the large amount of work, the shortage of storage space and containers, and the insufficient number of people needed, grain department at all levels diligently adopted commensurate measures and actively improved purchase methods.

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CSO: 4007/483

RICE HARVEST PROSPECTS, PROBLEMS EXPLORED

Nanjing XINHUA RIBAO in Chinese 4 Jul 82 p 1

[Article: "How Can This Year's Rice Production Be Increased. Leaders and Technical Cadres Concerned Provide Some Ideas"]

[Text] Recently the Provincial Department of Agriculture and Forestry convened provincewide on-site conferences on field care of rice in Jianhu and Yancheng counties. The almost 100 leaders and technical cadres engaged in rice production emphasized study of how to increase rice production this year to win a bumper rice harvest.

Everyone acknowledged that the basis of this year's rice production is fairly good. First of all, leaders at all levels have devoted serious attention to rice production, and have taken in hand as a paramount task the overfulfillment of production quotas for the autumn rice crop. Second, this year seedlings have been sufficient in every crop, quality is rather good and there have been few losses, which has created conditions for the transplanting of a sufficient paddy rice acreage. Third is this year's transplanting quality has been fairly good, and enough plowing, harrowing, sunning of the fields, and turning of the soil has been done; the area fertilized with organic fertilizer has increased, and the area on which plant stems and straw has been returned to the fields is greater than last year. Fourth is perfection of production responsibility systems to promote care of the rice, early side dressings of fertilizer, early working of the fields, and timely prevention and control of crop diseases and insect pests. Basic transplanting was done well, and timely care given and, this plus favorable climatic conditions has brought about very heartening growth of the rice now.

However, everyone acknowledged that difficulties in winning a bumper rice harvest this year are also great. First is a reduction from last year in the area multiple cropped to rice this year. Statistics show an area of 36.4 million mu in the province multiple cropped to rice, more than 900,000 mu less than last year. Second is the existence of some problems in some places with quality of transplanting and levels of care given. In some places, after plowing, harrowing, sunning, turning the soil, and watering, transplanting was done before the fields had subsided causing the transplants to become too deep. Some transplanting was overly close, and the

number of plants too numerous; some places lacked organic fertilizer for use as base fertilizer; and some did not provide care promptly to the detriment of early development. Third, rice diseases and insect pests have appeared in substantial numbers. Stem borers, leaf hoppers, sheath and culm blight, striped bacterial blight, and blast of rice have all occurred early causing extensive damage. There is also a shortage of chemical fertilizer, and both fuel and electric power are fairly scarce.

Faced with these problems, everyone recognized the need for serious attention, from top to bottom, to this year's rice production. In terms of the province as a whole, though the summer grain harvest was a bumper one; nevertheless, the major part of grain production for the year as a whole will come from autumn grain. Eighty percent of the autumn grain is derived from rice. Therefore, a good job of rice production bears on the overall situation, is pivotal, and must be done well.

1. Every effort to plant more rice and to plant it well. This year all crops of seedlings have been good and their numbers sufficient, providing conditions for planting more rice and planting it well. These conditions have to be fully used to make more transplants.

2. Basing oneself on a fight against disaster to provide ricefield care. "Fight a good fight and give it all you've got; combat disaster to win a bumper harvest." It is necessary to act in light of the new circumstances and new problems in this year's rice production for "early, skillful, and painstaking" care. In some fields where rice has been planted too deeply, or where plants have been seriously damaged or the number of basic seedlings are insufficient, timely inspections should be made and seedlings replaced, thinning the thick to fill in thin spots to assure density. After transplanting medium late rice plants, it is necessary to weed and loosen the soil, to bank soil around the roots, and to fertilize early with tillering fertilizer to promote early development.

Following perfection of responsibility systems, decentralized care of rice production is fairly common and technical guidance has to be painstaking. Various methods can be used to get techniques into production teams, households, and the fields.

In giving attention to ricefield care, different crops in the crop rotation system and different seedling conditions will require adoption of methods of "field consultations, tailored guidance, and moving forward on the basis of seedling conditions." Management of watering requires guarding against deep irrigation, irrigation by channeling water along furrows, flood irrigation, and cutting off the supply of water too early during the last stage, and encouragement of conservation of water. Attention has to be given the opening of ditches to drain the fields in the practice of early draining, light draining, and draining at several separate times to prevent "slamming on the brakes." Attention has to be given to economic use of fertilizer, to increasing fertilizer effectiveness, to fertilizing with long lasting coarse fertilizer for single crops of late rice, and to increasing base fertilization for late season rice. Fertilization during panicle formation has to

be done accurately with adherence to the system of "two looks and two decisions" to prevent using too much at one time. Now is the time to seize the opportunity to accumulate and make natural fertilizer. Prevention and control of diseases and insect pests must be given attention with a good job done of disease and insect pest monitoring and reporting, preparation of pesticides, timely prevention and control, and attention to safe use of pesticides to prevent accidental poisonings.

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CSO: 4007/483

PEASANT METHODS OF WHEAT STORAGE EXPLAINED

Nanjing XINHUA RIBAO in Chinese 8 Jul 82 p 2

[Article: "A Talk About Wheat Seed Storage"]

[Text] Basic requirements in seed storage are, one, to assure purity and two, to maintain great seed vitality.

Seeds are living organisms that regularly respire. In addition to being affected by temperature and air, the amount of moisture in seeds is a decisive factor in whether this respiration will be strong or weak. The higher the moisture content the more vigorous the respiration, and in the presence of enzymes and oxygen, a series of complex biochemical and hydrolytic reactions occur in which carbon dioxide, water vapor, and heat are liberated to create a pernicious environment that intensifies seed respiration. In this way not only is the material stored within the seeds hydrolyzed, depleted, transformed and changed in quality, but great reproduction of granary insects and micro-organisms is induced as well resulting in molding, eating of the grain by insects, and finally loss of seed vitality.

Consequently, lowering of seed moisture content to safe standards (12 percent for wheat and 13 percent for barley), plus creation of good storage conditions is the key to controlling seed respiration and taking good care of the seeds. Wheat, which has a thin skin, spongy tissue, and much hydrophilic substance, and the embryo of which is rich in nutrients, is particularly prone to taking on more moisture, to molding, and insect damage, so it must be all the more diligently taken care of.

A brief account is given below of simple methods for taking care of wheat:

1. The vat storage method. Thoroughly wash a water vat (bats used for pickling vegetables may not be used), and dry it well. After air drying, fill it 80 percent full with seeds covering them to a depth of 5 or 6 cun with grass or wood ashes (rice chaff ashes, dried wheat hulls, or dried peanut shells will also do). Alternatively cover the seeds with dry, insect free paddy, broad beans or such crops to a depth of 5 or 6 cun, and after compacting slightly, use a double layer of plastic sheeting to seal the opening of the vat tightly. If a vat is not available, rice stems (or rice straw) and mud can be fashioned into a crude earthen jar

instead, but dry wheat hulls should be placed in the bottom of the jar to a depth of 5 or 6 cun. In some places the peasants also use bottles or teacups containing 2 to 3 liang of white spirits, which they stopper with gauze and place among the grain in the bats to protect them against insects.

2. Grain bin storage method. Dry wheat husks are first spread to a depth of 1 to 1½ cun in the bottom of the grain bin and covered with rush mats. Atop this a tube shaped bin is fashioned and the wheat dumped into it until it is 80 percent full after which it is covered (in the same way as described above). If another layer of wrapping is put around the outside and a 5 to 6 cun space left between the two layers, grass or wood ashes being placed in the space as cushioning, that is even better. It will both prevent the grain from taking on moisture and guard against rats. Some places also mix freshly dried cow dung into the dried wheat husks at the bottom of the bin, which also serves to prevent rats.

3. Bag storage method. Burlap bags are best, but bags used for pesticides or chemical fertilizers may not be used. After sunning the burlap bags and shaking them clean, the wheat seeds are put inside and the mouth of the bag tightly closed. They are then placed on a pile surrounded by about 1 chi of dry wheat straw, or else stored according to the bin storage method.

4. Lime jar dry storage method. If the quantity of grain is fairly small, this method may be used. It consists of first washing thoroughly a glazed wine jar, and after sunning and drying it, placing some pieces of quick lime (or wood ashes) in the bottom of it, then putting the grain into a bag and placing it in the jar and using plastic film to seal the mouth of the jar.

The above methods require attention to three points: 1. Before storing, the wheat must be thoroughly sundried to reduce its moisture content and to kill some of the insect ova. Grain moisture content must be strictly controlled at below the safe moisture (the grain feeling hard when bitten). Broken kernels and extraneous material should be removed insofar as possible in order to improve stability for safe storage. Dried grain has to be put into vats and placed in storage at once, the mouths of vats being tightly sealed. 2. No matter the method used, the locations of storage bins, straw, and vats must be kept dry, ventilated, and cool. 3. Sealing should not be done in rainy overcast weather. If the wheat has not been sufficiently dried prior to storage, at some time during the storage period, clear and dry days should be selected for sunning the grain several times. Should heating of the grain or live insects be suddenly discovered, action must be taken at once.

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PADDY RICE STIFFENING ANALYZED

Nanjing XINHUA RIBAO in Chinese 24 May 82 p 2

[Article: Occurrence and Reversal of Paddy Rice Seedling Stiffening"]

[Text] Seedling stiffening is a manifestation of physiological blockage that occurs during the tillering period in rice. It occurs mostly in early rice growing areas and in spring crop ricefields in the Xuzhou-Huaiyin area, and rice grown following a crop of green manure is particularly prone to it.

The form in which seedling stiffening is conspicuously manifested is very slow development after planting. This shows up in very fine leaves, slow emergence of leaves, and a halt to tillering. Plant shapes are extremely straight like "a bundle of joss sticks;" new roots are few; old roots are few and elongated, and are either iron rust color or black. Leaf color and luster also differ widely.

Reasons for the stiffening of seedlings are complex. Commonly encountered seedling stiffening is of the following several kinds:

1. Cold stiffening of seedlings. This is caused mostly by low temperatures or irrigation with cold water following transplanting. It is manifested in light green leaves streaked with yellow, plus needle shaped brown spots dotting the surface irregularly, particularly the leaf tips. In serious cases, withering from the leaf blade tip occurs, and charring takes place along the edges of the leaf blade at its base. The rice plants exhibit a cluster shape with no tillering; roots are brown and soft without resilience, and new roots are thin and few.

The principal way to bring about a change in cold stiffening of seedlings is to use water to regulate the temperature. Alternatively, a short period of draining all but a thin film of water from the fields and sunning them to increase temperatures may be used, or irrigation water may be warmed to regulate temperature. This is accompanied by fertilizing with quick acting nitrogenous fertilizer. Most important in production is the need to breed sturdy seedlings and to transplant them at the right time. The beginning of the transplanting season should be 20 days after sowing when temperatures average 18° to 19°C.

2. Phosphate deficient seedlings. With this kind of seedling stiffening, new leaves are dark green and bluish. Old leaves look gray-purple. Leaves stand upright at a small angle to the stem. Sheaths are proportionately unbalanced, the sheaths being long and the leaves short. When serious, the leaf veins curl slightly and look smaller. The root system is delicate and soft, lacks resilience, and does very little branching.

Two situations cause seedling phosphate deficiency. One is a lack of phosphate in the soil. Surveys show that in paddy fields with less than five parts per million of organic phosphate, seedlings exhibit phosphate deficiency stiffening. Two is a physiological phosphate deficiency. By this is meant that as a result of low temperatures or too much toxic reduction material, phosphorous absorption by the root system is blocked. To reverse phosphate deficiency in seedlings, in the former case fertilization with phosphate is effective. In the latter case, obstructions to rice seedling absorption of phosphate must be removed. Beyond this, if within the rice plants a sufficient source of nitrogen exists, it will help in the conversion of inorganic phosphate into organic phosphate, promoting its absorption and use by rice plants. Thus, in the case of this kind of seedling stiffening, not only is fertilization with phosphate necessary, but supplementary fertilization with nitrogenous fertilizer should also be done.

3. Potash deficient seedlings. This is also known as physiological red withering disease. In this kind of seedling stiffening, leaf tips exhibit reddish brown spots, and these spots on old leaves spread toward central leaves and gradually from the leaf tips to the base of the leaf to form reddish brown stripes or spots. On some withered plants, leaf sheaths may exhibit reddish brown spots and splotches making the entire leaf or the entire plant appear reddish brown in color, only a small number of central leaves maintaining greenness. Extension of rice plant roots is inhibited and root hairs grow only on the tips of root branches. Their development is very poor; they fall off readily, and the entire root system appears yellowish-brown to black in color.

Reasons for potash deficiency are fairly numerous. In sandy soil fields with a thin cultivated layer, porous fields, and strongly leached old wetland fields the effective potash is scant and readily lost, creating potash deficiency stiffening. When quantity of nitrogenous chemical fertilizer is increased and the quantity of organic fertilizer reduced, the proportion of potash to nitrogen becomes unbalanced opening the way to outbreaks of potash deficiency seedling stiffening. After removing obstacles to the plants' absorption of potash, increased fertilization with potash fertilizer produces remarkable results in this kind of seedling stiffening.

4. Toxic seedling stiffening. This kind of stiffening of seedlings is produced largely by the poisoning of seedling roots by reduction materials in the soil. Such stiffening may be divided into three types on the basis of toxic material involved as follows:

1. Bivalent iron seedling stiffening. In this kind of seedling stiffening seedling roots exhibit no rust or a very small amount of rust spots on part of the root system, and near root tips there is much wispy branching. On the

under side of leaves brown or cinnamon colored spots appear, starting at the tips of the leaves and gradually spreading to the base of the leaves until the entire leaf turns cinnamon color. This results mainly from the bivalent iron content of the soil restricting root system absorption of nutrients.

2. Organic acid seedling stiffening. In this kind of seedling stiffening the root system is stunted, new roots are extremely few and, in serious cases, the root system sheds its outer layer. Some roots are transparent or rotted. Leaves turn yellow and are stunted. In serious cases, the under sides of the leaves wither and yellow, then die after growing only slightly. The period when rice seedlings green up and develop roots is the time when root system resistance to organic acid is weakest; thus, they are prone to toxic stiffening.

3. Hydrogen sulfide seedling stiffening. When this kind of seedling stiffening occurs in the fields, an acrid stench like that of rotten eggs is present. The entire root system becomes a black or dark gray color; white roots are extremely few in number and are fragile. If exposed to air, the black roots will turn yellowish-brown. Leaves are yellowish-brown in color, and leaf tips char, then wither and die. Only one or two new leaves remain green. This kind of toxic stiffening results primarily from hydrogen sulfide in the paddy soil restraining root respiration and absorption.

Toxic stiffening of seedlings results largely from overly large concentrations of reduction materials in paddy soils that weaken the oxidation capacity of rice plant roots. Paddyfields having a high water table, poor drainage with plowing and harrowing being done when the soil is overly sodden, clayey soil lacking ventilation, and fairly large iron content are prone to outbreaks of bivalent iron seedling stiffening. If large amounts of fresh green manure or incompletely decomposed organic fertilizer are plowed under, outbreaks of organic acid seedling stiffening and hydrogen sulfide seedling stiffening may occur in such paddyfields.

Reversal procedures consist principally of increasing paddyfield ventilation in combination with fertilization using suitable amounts of quick acting nitrogenous and potash fertilizer. A fundamental procedure is to nurture sturdy seedlings, to ban use of incompletely decomposed organic fertilizer, and to maintain soil ventilation.

In addition to the foregoing four types of seedling stiffening, there is stiffening caused by deep planting, nitrogen deficiency stiffening, stiffening caused by diseases and insect pests, and deep water stiffening. When stiffening results from deep planting and too much irrigation water, water should be reduced, the fields weeded, and the soil loosened, digging done around plants to reduce the depth of tillering nodes. Nitrogen deficiency stiffening requires supplemental fertilization with nitrogenous fertilizer. When stiffening as the result of diseases or insect pests occurs, the diseases and insect pests must be eradicated and more fertilization done to help development.

BRIEFS

GRAIN OUTPUT--Nanjing, 16 Aug (XINHUA)--From 1978 to 1981, Xuzhou and Huaiyin Prefectures in Jiangsu Province increased grain output at an average rate of 1.2 billion jin each year. In 1981 they produced 15.2 billion jin of grain, accounting for one-third of Jiangsu Province's total grain output. In the same year the two prefectures supplied 1,370 million jin of commercial grain to the state. [Text] [OW191225 Beijing XINHUA Domestic Service in Chinese 0040 GMT 16 Aug 82]

AGRICULTURAL INCOME--The economic results of agricultural production in Jiangsu Province were markedly raised in 1981, thanks to the implementation of the party's economic policies for rural areas and the establishment of various forms of production responsibility systems. The total agricultural income of the province in 1981 increased by 12.8 percent over the previous year. With the reduction in agricultural production cost, net income increased by 24.3 percent and the average per capita income for peasants rose by 26.17 yuan. [Text] [Nanjing JIANGSU Provincial Service in Mandarin 2300 GMT 3 Aug 82 OW]

GRAIN PROCUREMENT--Nanjing, 31 Jul (XINHUA)--By 20 July, Jiangsu Province had purchased over 5 billion jin of summer grain, or 56 percent more than the state purchase quotas. The quality of grain purchases was generally better than that of the previous year. [Text] [Beijing XINHUA Domestic Service in Chinese 0705 GMT 31 Jul 82 OW]

CSO: 4007/46

BRIEFS

FIELD MANAGEMENT--The Jiangxi Provincial People's Government issued an emergency circular on 5 August urging all localities to strengthen field management, with emphasis on work against drought and control of plant diseases and insect pests. According to the circular, many localities in the province have, since July, suffered serious drought as well as plant diseases and insect pests. Weather forecasts indicate that there will still be insufficient rain fall in August and September. For this reason, the circular requests that serious attention be paid to antidrought work and that every effort be made to protect the crops against diseases and insects. [Text] [Nanchang JIANGXI Provincial Service in Mandarin 1100 GMT 6 Aug 82 OW]

SUMMER HARVESTING--Summer harvesting has been basically completed in Jiangxi Province. Commune members are busily engaged in field management of autumn crops. Jiangxi has suffered from exceptionally serious floods and water-logging, which have caused difficulties for summer harvesting and summer sowing. Many farms and water conservancy projects destroyed by the floods have been repaired. Transplanting of late rice seedlings is now under way. In Fuzhou Prefecture, more than 140,000 mu of late rice have been transplanted. [Text] [OW100533 Nanchang JIANGXI Provincial Service in Mandarin 1100 GMT 8 Aug 82]

CSO: 4007/46

BRIEFS

FLOODING--From 2000 on 4 August to 0800 on 8 August, Dandong Municipality, Liaoning Province, had a 100-200 mm torrential rainfall. The rain in a commune of Kuandian County measured 261 mm, resulting in high water levels along the rivers and damage to highways and railroads. The municipal railway sub-bureau has dispatched workers to repair damaged sections. [Text] [Shenyang LIAONING Provincial Service in Mandarin 1100 GMT 8 Aug 82 SK]

THERMAL POWER PLANT--The fourth-stage expansion project of the (Qinghe) Power Plant began on 1 August. This power plant, with a capacity of 1.1 million kw is the largest thermal power plant in China. The expansion project will involve an installation of eight power generating sets with a total capacity of 200,000 kw. On completion, 4 million kw hours of electricity will be produced daily. [Text] [Shenyang LIAONING Provincial Service in Mandarin 2200 GMT 2 Aug 82 SK]

CSO: 4007/46

NEI MONGGOL

BRIEFS

NATIONAL SEMINAR ON PLANT ECOLOGY--A national seminar on teaching materials and methods of plant ecology was held in Hohhot 1-13 August. Attending the seminar were 90 persons from 37 institutions of higher learning, and research and press units from 24 provinces, municipalities and autonomous regions throughout China. Regional party and government leaders including Wang Duo, Bu He and Hao Xiushan, received all participants. Representatives to the meeting visited grasslands in Xilin Gol League. [Text]
[SK161151 Hohhot NEI MONGGOL Regional Service in Mandarin 1100 GMT 15 Aug 82]

CSO: 4007/46

BRIEFS

NINGXIA RURAL SAVINGS UP--Continuing their years of successive increase, Ningxia Hui Autonomous Region's rural savings deposits have risen once again during the first half of 1982. By the end of June, the balance of savings increased over 39 percent compared to the same period last year. Fixed deposits accounted for 80 percent of the total amount of savings deposits. Estimating from the region's 1981 year-end farming population, the savings per capita was 22.81 yuan. Ten municipalities and counties have exceeded the entire region's per capita rural savings level. [Excerpt] [Yinchuan NINGXIA RIBAO 28 Jul 82 p 1]

WHEAT PRODUCTION--Yinchuan, 30 Jul (XINHUA)--In Ningxia Hui Autonomous Region, 11 municipalities and counties in the area irrigated by water diverted from Huanghe River have reaped a bumper harvest on 1.5 million mu of wheat fields in 1982. The total output of wheat in the area increased 10 percent over last year. It is the third bumper harvest year for the area since the convocation of the 3d Plenary Session of the 11th CPC Central Committee. [Text] [OW130851 Beijing XINHUA Domestic Service in Chinese 0714 GMT 30 Jul 82]

CSO: 4007/46

QINGHAI

BRIEFS

QINGHAI PREFECTURE'S PROGRESS--Xining, 19 Aug (XINHUA)--Since the 3d Plenum of the 11th Party Central Committee, Golok Tibetan Autonomous Prefecture, Qinghai Province, has further implemented the party's policies for areas inhabited by minority nationalities. Local minority-nationality cadres who have become members of leading bodies at various levels account for more than half of the total number of cadres in the entire prefecture. In 1980 and 1981, the per capita income of the prefecture's more than 16,000 herdsmen households derived from the collective reached about 200 yuan. Now every herdsman's family has surplus grain and horses. This year, the communes and production brigades in the prefecture have accumulated more than 24 million yuan, and herdsmen's savings deposits have also increased greatly. The more than 50 grassland cities and towns in the prefecture have been linked by more than 2,400 kilometers of highways. Between 1979 and 1981, the prefecture's herdsmen provided the state with more than 30 million jin of beef and mutton, more than 13 million jin of fine wool, more than 840,000 pelts and more than 1.2 million jin of medicinal materials such as pilose antler, musk, Chinese caterpillar fungus, bulbs of fritillary, root of membranous milk vetch, and so forth. In the last 3 years, the average total annual value of animal and sideline products sold by the prefecture to the state was more than double that in the 27 previous years. [Text] [OW210057 Beijing XINHUA Domestic Service in Chinese 0223 GMT 19 Aug 82]

CSO: 4007/46

BRIEFS

FARMLAND CAPITAL CONSTRUCTION—Shaanxi Province has seen a good tendency in farmland capital construction and water and soil conservation. According to statistics by the end of July, water conservation projects have been built for 128,000 mu of fields, an increase of 42 percent over a comparable period last year. Aforestation work has been promoted throughout the province. Water conservation projects are being built in 561 small rivers, some 200 more than the comparable period last year. Since the beginning of this year, leadership over farmland capital construction and water conservation has been strengthened. At present, many counties in the Yulin and Xianyang Prefectures have fulfilled or overfulfilled their plans in farm construction work. [Text] [HK110445 Xian SHAANXI Provincial Service in Mandarin 0500 GMT 10 Aug 82]

CSO: 4007/46

BRIEFS

HEAVY RAIN--Since 7 August, most areas in Shandong Province have experienced successive rainfalls. As of 0600 on 11 August, all areas had 30 millimeters or more, except for eastern Yantai Prefecture, northern Weifang Prefecture and northeast Huimin Prefecture where the precipitation was less than 20 millimeters. Western Yantai Prefecture, southern Weifang Prefecture, most of Linyi Prefecture, western Jining Prefecture, southeast Liaocheng Prefecture and Zaozhuang Municipality had rains measuring from 60 to 120 millimeters. The precipitation in Xixia County was 255 millimeters, the most in the province. Because of the series of rains, some rivers flooded and water levels in some reservoirs and lakes raised. [Text] [Jinan SHANDONG Provincial Service in Mandarin 2300 GMT 11 Aug 82 SK]

COTTON OUTPUT--Since the 3d Plenary Session of the 11th Party Central Committee, Shandong Province's Liqing County has reaped rich agricultural harvests for many years running. In 1981 the county's per-unit yield of ginned cotton was 109 jin, an increase of 150 percent over 1978. Per-unit yield of grain was 607 jin, an increase of 167 jin over 1978. Per capita distribution of commune members reached 174 yuan, equal to 400 percent of 1978. [Text] [Jinan SHANDONG Provincial Service in Mandarin 2300 GMT 10 Aug 82 SK]

CSO: 4007/46

'SHANXI RIBAO' ON DIVISION OF RESPONSIBILITY

HK090847 Taiyuan SHANXI RIBAO in Chinese 23 Jul 82 p 2

[Article by Policy Investigation and Study Office of Provincial CCP Committee's Rural Work Department: "What Things Should Be Done Under Unified Management After the Institution of the Responsibility System?--Special Investigation on the Question of Unified Management and Division of Responsibility"]

[Text] When amplifying the responsibility system in agricultural production, how should we correctly handle the relations between unified management and division of responsibility? This is a kernel of the matter. Recently, we carried out a special investigation on this subject. The following are the presently existing problems and methods as well as opinions raised by various localities:

The so-called relations between unified management and division of responsibility are the relations between unified and decentralized management on the one hand and unified administration and decentralized operation on the other in the agricultural collective economic responsibility system. Unified management and division of responsibility are the nucleus of the agricultural production responsibility system. They are like two wings of the collective economy and none of them can be dispensed with. They conform with different productive forces and are necessary management and administration forms and labor organizational forms needed for the development of the collective economy. Unified management is a necessary form for bringing the superiority of the collective economy into full play. Division of responsibility will fully arouse the enthusiasm of laborers and closely combine their responsibility, rights and interests. This is also a necessary means for promoting the socialist collective economy. Unified management and division of responsibility supplement each other and neither should be overemphasized at the expense of the other. Division of responsibility resides in unified management and vice versa. Therefore, only by correctly handling the relations between unified management and division of responsibility, placing equal stress on them and integrating them can we attain the objective of giving play to the superiority of the collective economy and bringing the enthusiasm of the masses into full play to effectively promote the development of production and consolidate and expand the socialist collective economy.

Some people maintain that unified management means socialism whereas division of responsibility means individual farming. They wrongly thought that once the division of responsibility was stressed, people's minds would be diverted and the collectives would be divided up. Once unified management was stressed, they intended to adhere to the old way and abrogate the responsibility system based on contracts. All these views and practices were wrong and demonstrated the "leftist" influence.

The key to correctly handling the relations between unified management and division of responsibility lies in the word "ought to." In other words, we should carry out unified management when such a method ought to be followed and practice division of responsibility when such a practice ought to be pursued. Unified management and division of responsibility should be in accord with the level of the development of productive forces and beneficial to arousing the collective and laborer's enthusiasm for unified management and independent operation. Only thus can we effectively combine unified management and division of responsibility.

A production team in which the main effort is exerted to unified management, should actively promote decentralized operations and popularize the contract system based on output quotas. In the areas where the "double contracts" are pursued, we should solve the problem of lacking unified management.

Correct unified management is beneficial to unified production. Peasants actively pursue it rather than opposing it. In units where the "double contracts" are pursued, peasants realize through practice that unified management is indispensable. They say: "The contract system is mainly based on scattered individual efforts. If the collectives fail to manage in a unified way the use of tractors to till the land, irrigation of the fields, curing plant diseases, purchasing chemical fertilizers and breeding fine varieties of crops, individual peasant households will not be able to accomplish the task either." Therefore, they have strongly demanded that important items of production be managed by the collectives in a unified way. According to the principle of arousing the enthusiasm of both collectives and individuals, the following items should be managed and administered in a unified way in light of the specific conditions of various production teams and the items concerned.

I. We should manage well land resources in a unified way.

Land is the main means of production in agriculture. Land contracting to commune members and their private plots belong to the collectives. The collectives must not only own the land, but also exercise their rights to manage it. It is an important task of the production team to manage collective land well. In light of the presently existing problems, in the process of amplifying the production responsibility system this winter and next spring, we should manage the land well in the following respects:

- 1) We should persist in implementing a reasonable system of contracting land to peasants. With regard to the problem of contracting land on a per capita basis, that should be solved according to the proportions between

population and labor force and the principle of contracting land based on peasant households' capability. Apart from private plots and land for producing grain rations, with the development of a diversified economy and the key as well as specialized peasant households, we should guide peasants to reasonably adjust the above-mentioned system according to circumstances. The amount of most of the land contracted to peasant households should remain unchanged, but a small change is allowed. With regard to land irrationally contracted to households consisting of members of the four categories of people, it should also be gradually readjusted. If the commune members concerned lack the ability to cultivate the land or have been transferred to other work, their land should be returned to the collectives. Production teams should reserve a small amount of land for special use if they have not already done so. The collectives should manage and use such land well through contracting it to specialized peasant households.

2) The collectives should conscientiously manage and control land contracted to commune members and see to it that the land is cultivated well and fertilized. The terms defined in contracts should include land management and fertilizer. The collectives should constantly supervise the enforcement of the contracts. They should encourage commune members to effectively manage their contracted land. Reasonable rewards should be given to those who succeed in doing so according to benefits gained from the good management of their land.

3) We should strictly enforce the stipulations concerned set in the "Summary of the National Rural Work Meeting": "We should strictly ban commune members from building houses, digging graves or removing earth from their contracted land. They are not allowed to buy or sell, lease, transfer the possession of or leave uncultivated the land contracted to them. Otherwise, the collectives have the right to take back the land." With regard to cases of violating the above-quoted stipulations, they should be expeditiously and conscientiously handled. We should on no account let such things go unchecked.

4) We should formulate unified plans and rationally cultivate land owned by the collectives in light of local conditions. As far as uncultivated hills and mountain slopes, forest land and grassland are concerned, we should organize commune members in a planned way to plant trees and grass on them or allot them to peasants. We should resolutely adopt powerful economic and administrative measures to prevent the acts of ruining forest and grassland and indiscriminately opening up waste land.

II. We should formulate unified plans for planting.

At present, most units in areas where the "double contracts" are implemented are doing quite well in pursuing the state plans for planting. However, some units have not accomplished the task of retaining sufficient amounts of land for planting industrial crops such as cotton and others which the state needs. They blindly expand the acreage under other industrial crops by reducing the amount of land for producing grain. Some localities have not implemented the state plans in a practical way. They exercise too rigid control over peasants. They even interfere in peasants' plans for using their

land and fail to respect the decisionmaking power of production teams and peasants. Under the guidance of the state plan, peasants should be allowed to make arrangements for their planting according to local conditions. Some localities have adopted the methods of "letting the collectives assign proportions and encouraging commune members to make flexible arrangements" to work out unified plans for planting. The varieties and quantities of crops which should be retained by the state and collectives should be strictly planted according to plan and included in contracts to ensure the fulfillment of the tasks.

III. We should do well in unified management.

Administration and use of socialized implements of production such as tractors owned by the collectives and so forth as well as water conservancy facilities. At present, 70 percent of tractor teams and work groups have implemented various kinds of responsibility systems. About 50 percent of these teams and groups have pursued the responsibility system of contracting work tasks to groups and individuals. The common problems arising from this responsibility system are: first, the terms defined in the contracts are not sufficient. In other words, only the amount of money is included without taking into consideration the amount of cultivated land, technical skills and safety in production. As a result, tractors are mainly used for transportation instead of farm work and they are badly damaged. This adversely influences their service lives and causes more and more accidents. Therefore, the collectives have to spend a lot of money to compensate for the damage. Second, the amount of profits turned over to the collectives as stipulated in the contracts is a bit too low, which is not even enough to cover the depreciation fees. To deal with such a situation, we should persist in doing the following things with regard to the management and use of socialized implements of production such as tractors and others.

- 1) Tractors owned by the collectives should be administered and controlled by the collective units concerned and some people must be put in charge of the work.
- 2) When using agricultural machinery such as tractors and others, we should stick to the principle of mainly using them to serve agriculture. The collectives should ask tractor teams and groups to fix their time for doing farm work and serving agriculture every years. Their tasks and demands set on them should also be stipulated. Fuel should be managed and controlled by the collectives and the priority use of oil for farm work should be guaranteed. The remuneration fees for tractor-ploughing, sowing and machinery threshing should be controlled by the collectives in a unified way. The fees should not be too high. It is alright as long as cost of production can be covered. If the collected fees are too low to cover the expenses, collective incomes from other industrial and sideline production may be used to make up the deficiency.

We should stick to the unified management of water conservancy facilities by the collectives. Generally speaking, a special contract system of water conservancy facilities based on the responsibility system can be effectively

implemented if it is managed in a unified way by the collectives. Strict terms (such as time, the amount of land irrigated, water supply quantities and so forth) should be defined and reasonable remuneration offered if the gravity irrigation is contracted to teams or groups and motor-pumped wells are contracted to peasant households or individuals.

IV. We should organize the work of popularizing agrotechniques in a unified way.

The breeding and propagation of improved varieties as well as change of planting plans should be carried out and managed by the collectives in a unified way.

With regard to the work of plant protection, seed soaking, seed dressing, plant disease forecast and large-scale elimination of insect pests in particular, these things should be managed in a unified way by special teams and groups or individuals organized or assigned by the collectives. Medicaments and medical apparatus should be bought by the collectives and special people should be assigned to control and use them. Decentralized management in this respect is not allowed. At present, some localities have not done well in carrying out unified management with regard to these matters. As a result, no forecast was given when plant diseases and insect pests might be expected to occur. When disasters happened, they could not be expeditiously eliminated in a unified way. Some localities took measures to deal with plant diseases and insect pests, whereas others let them spread unchecked. In particular, some people died because of poisoning and such accidents occur from time to time. We should bear this lesson in mind.

To ensure proper application of fertilizer, in places where it is inconvenient and difficult for the contracted peasant households to buy and transport commodities and fertilizers, the collectives should actively undertake the work in the interest of commune members and send technicians to teach contracted commune members to apply fertilizers in a scientific way.

V. We should organize commune members to effectively carry out large-scale farmland capital construction.

Proceeding from their own practical reality, the collectives should work out unified farmland capital construction plans for tackling soil, rivers and forests with the main emphasis on soil. According to these unified plans, our main tasks are to reform low-yielding and medium-yielding farmland, raise the yield per unit area and control soil erosion. We should adopt the methods of integrating engineering measures with biological ones to accomplish the tasks year after year according to our capability. According to work tasks assigned in a unified way, each and every labor force should be asked to contribute certain workdays to the collective farmland capital construction and their accumulated workdays in this respect should be included in the contracts. Generally speaking, a full-time male labor force should contribute no less than 30 workdays to the collective and labor capital construction whereas a part-time male labor force and a full-time female labor force should contribute no less than 15 workdays. Those commune members who

have accomplished their tasks in farmland capital construction should be praised and those who have overfulfilled their quotas should be encouraged and rewarded. As for those who have failed to accomplish their work tasks without reason, they should be asked to pay cash for compensation so that the collectives may be able to organize other labor force to accomplish the work tasks. All the necessary expenses and payment for labor incurred thereby may be deducted from the collective incomes gained from industrial and sideline production in addition to labor accumulation. The expenses of some items should be shared by peasant households which gained benefits from the projects concerned. To encourage production teams and commune members to improve and ameliorate their farmland and reform low-yielding land, when projects of cultivating new land have been accomplished, no grain levies or grain retention for the collectives is required. When projects consist of improving farmland and changing production conditions (such as turning dry land into irrigated farmland, bad land into good land and poor soil into fertile soil) and converting low-yielding land into high-yielding land, no additional grain levies or grain retention for the collectives will be demanded.

VI. Forestry, animal husbandry, industry and sideline production of the collectives should be managed in a unified way.

First, various localities should actively carry out their collective forestry, animal husbandry, industry and sideline production in light of local natural resources and practical conditions. They should adopt the methods of "organizing special production before pursuing the contract system." In other words, people with special skills and surplus labor force should be assigned to the collective forestry, animal husbandry, industry and sideline production. In particular, production involving collective forestry, animal husbandry industry and sideline production which produce marketable products and greatly increase incomes should be retained or restored so that the collectives and commune members will boost their incomes.

Second, generally speaking, the production of collective forestry, animal husbandry, industry and sideline occupation should preferably be contracted to specialized peasant households and based on the system of linking remuneration to output. When tenders are invited, we should do well in selecting the contracted households. These items should not be contracted to unreliable persons or those who lack confidence. Trades and services such as vast forest land, orchards, nurseries of young plants, female livestock breeding farms, dairy farms, beef cattle farms, tending sheep, construction teams, brickkilns, transport teams, and so forth, which need a fairly large quantity of labor force, should be managed by the collectives. The projects concerned should be contracted to production teams or groups.

Third, whether or not the production of the collective forestry, animal husbandry, industry and sideline occupation is contracted to groups, peasant households or individuals; depreciation funds, accumulated funds and funds for expanded reproduction retained by the enterprises should be paid to the collectives. In some localities, the output quotas set in the contracts are

too low. Such a practice which harms the interests of the collectives should be corrected.

Fourth, we should solve the problem of balancing remuneration for labor in agriculture, forestry, industry and sideline occupations within the same accounting unit. If the incomes resulting from forestry, animal husbandry, industry and sideline occupations are high, the retention for the collectives should be increased. We should subsidize agriculture from various aspects in a planned way and stabilize labor force in agriculture.

VII. We should carry out unified distribution and retention.

Distribution and retention of agricultural and sideline products are an important aspect which reflects the interests of the state, the collective and the individual. Therefore, in accordance with the principle of "three integrations," we should carry out distribution and retention in a unified way to meet the needs of the state, the collective and the individual. Things to be retained by the state and collectives mainly include purchase by the state, purchase of surplus grain, grain allocated for five-guarantee families, families of servicemen and revolutionary martyrs, agricultural tax, public welfare funds, accumulation funds, management fees, allowances for cadres, salaries for teachers teaching in schools run by local people, allowances for barefoot doctors, pensions for the disabled or for the families of the diseased, allowances for the five-guarantees families, and so forth. The retention should be rationally carried out in light of production output, acreage of farmland, incomes, labor forces, population, and so forth. The retention of these items should be controlled according to proportion to avoid imposing too heavy a burden on peasants. In the meantime, we should provide peasants with more education on the "three integrations" to raise their ideological consciousness of loving the country and the collective.

At present, some units which carry out the management system based on fixed production quotas or unified management have exercised too rigid control because they have not fully implemented the contract system. Therefore, they should also learn from units which pursue the responsibility system linking remuneration with output to overcome their defects and further arouse the enthusiasm of the masses. They may implement the system of fixing output quotas based on groups. In some work groups, the basis of the contract system can be changed from small job contracts to big job contracts. The system of personal responsibility can also be followed in order to carry out successive production. Some work of field management can be contracted to labor force. Apart from that, some working procedures and the production of some crops can also be contracted to labor force. The contract system and the system of linking remuneration to output should be implemented whenever possible. The contract system should be included in unified management and the practice of linking remuneration to output should also be pursued when we follow the contract system based on fixed output quotas. In a word, we should adopt flexible methods and take many and varied forms. All these will help us achieve good results in further arousing the enthusiasm of the masses. It should be pointed out that the work focus of the above-mentioned units is to popularize the contract system and further arouse the enthusiasm of the masses.

CSO: 4007/46

BRIEFS

RAINSTORMS AFFECT COUNTIES--Recently, parts of some counties in Sichuan Province including Daxian, Wanxian, Fuling, Nanchong and so on have been successively hit by torrential rainstorms and have suffered losses. According to a preliminary survey, among those enterprises which had effected insurance policies, more than 300 enterprises incurred losses; and among those staff and worker households and resident households which had effected family property insurance, more than 1,000 households suffered losses. After the disasters occurred, the cadres of the insurance companies in these areas immediately took action, and lost no time in going to those enterprises suffering losses to make investigations, help in handling the aftermath, calculate and [word indistinct] indemnity and assist the enterprises in restoring production. [Text] [HK131438 Chengdu SICHUAN Provincial Service in Mandarin 0030 GMT 11 Aug 82]

CSO: 4007/56

XINJIANG REPORTS ON LOCAL AGRICULTURAL ECONOMIES

HK110546 Urumqi XINJIANG Regional Service in Mandarin 1300 GMT 10 Aug 82

[Summary] When they heard the news about the 12th CPC Congress some of the leading comrades of the prefectures, autonomous prefectures and counties who are attending the regional conference on management of people's communes talked about the fine rural situation that had emerged since the 3d Plenary Session of the 11th CPC Central Committee. They said that the CPC's policies related to developing agriculture and livestock have greatly brought into play the initiative of the peasants and the herdsmen in carrying out production and have vigorously promoted the rapid development of the economy in the agricultural and pastoral areas.

According to statistics, during the past 3 years, the total income of the people's communes in the region has increased by an average annual rate of 8.7 percent, and the commune member's average income from the collectives has increased by an average annual rate of 10.6 percent.

(Liu Zhenxiang), deputy secretary of the Hetian Prefectural CPC Committee, said that 3 years ago, in his prefecture, there were 1,573 basic accounting units in which the average income of their members was below 40 yuan, but in 1981, the number of these units dropped to 583, which was a two-thirds reduction. On the other hand, 3 years ago, there were only 400 basic accounting units in which the average income of their members exceeded 100 yuan, but in 1981, the number of these units rose to 1,339, which was an increase of more than 200 percent. He said that the people in his prefecture are striving to achieve even better results.

Some leading comrades of the Altay Administrative Office said that their pastoral areas have also achieved good results. By the end of last May, the amount of livestock on hand increased to 3.58 million, which was 44 percent more than in 1978.

The responsible person of the Turpan Administrative Office said that last year his areas also achieved good results in developing agriculture and livestock breeding despite the drought. He said the people in his areas were striving hard for a bumper harvest this year.

CSO: 4007/46

YUNNAN

BRIEFS

YUNNAN LATE AUTUMN CROPS--Yunnan Province has carried out its late autumn crop planting plan by completing the planting of more than 3.7 million mu, about 1 million mu more than last year. By mid-July, Qujing Prefecture had already expanded its planting and growing of late autumn crops by 254,000 mu. Of this, paddy rice accounts for 78,000 mu, corn for 111,000 mu, food grains for 6,400 mu and the beans planted in ditch banks between fields (geng dou 8217/6258) for 75,000 mu. Shaotong Prefecture plans to increase its late autumn crop by more than 30 percent over 1981, with 500,000 mu of grain and soybeans planned. [Excerpts] [Kummin YUNNAN RIBAO 19 Jul 82 p 1]

CSO: 4007/547

WARNING ISSUED ON POSSIBILITY OF EPIDEMIC RICE DISEASES

Hangzhou ZHEJIANG RIBAO in Chinese 18 Jun 82 p 1

[Article: Sheath and Culm Blight and Rice Blast May Reach Epidemic Proportions. Provincial Plant Protection Inspection Station Issues Warning. Outbreaks Have Begun in Some Prefectures. All Jurisdictions Should Closely Watch Disease Spread and Act To Prevent and Control It"]

[Text] The Zhejiang Provincial Department of Agriculture Plant Protection Inspection Station issued a warning on the disease situation yesterday, which said that the recent heavy early summer rains, the high humidity, and the overly warm temperatures favor the spread of sheath and culm blight and rice blast. Outbreaks of both diseases have occurred earlier this year than last, and they have occurred rapidly, over a wide area, and seriously. Early rice crop sheath and culm blight is rampant everywhere and has begun to enter a period of sharp increase with a 100 percent incidence rate. Representative sampling shows the increase in the diseases to be from 10 to 22 times greater than for the same period last year. In a small number of much fertilized fields where prevention and control was not done thoroughly, and in chronically diseased fields and fields that had not been baked topdressing with "mixing of heads" will occur in the early rice crop. Leaf blast has occurred widely in the early rice crop; much acute cercospora spot has appeared, and in southern Zhejiang prefectures, much boot leaf blast has occurred. Some early rice that is susceptible to blast was seriously imperiled by panicle blast following heading. In addition, bacterial blight has broken out in Wenzhou, Shaoxing, Ningbo, Jiaxing, Taizhou, and Zhoushan prefectures, one after another.

Prevention and control of the three major rice diseases is a major assurance for winning a bumper rice harvest this year. The Provincial Meteorology Bureau forecast calls for an overly large amount of rainy days and rainfall during the next 20 days or so of the early summer rainy season, plus high humidity, so there is a great possibility that these diseases may become epidemic. It is suggested that all jurisdictions strengthen leadership, institute plant protection individual responsibility systems, strictly control the trend toward disease outbreaks, adapt general methods to specific diseases and specific fields, and on the basis of doing a good job of agricultural prevention and control, economically, safely, and on a fairly large scale use pesticides for prevention and control.

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CNO: 4007/269

DAMAGE TO FLOOD PREVENTION PROJECTS COULD LEAD TO MASSIVE INUNDATION

Hangzhou ZHEJIANG RIBAO in Chinese 17 Jun 82 p 1

[Article: "Excavation of Dikes To Sell the Soil, Destruction of Land To Fire Bricks Damage Production, Large Amount of Farmland Facing Danger of Flood Onslaughts; In Jiaxing Prefecture Some Communes and Brigades Regard Money Dearer Than Life; Local Government Should Resolutely Halt Such Stupid Actions"]

[Text] Editor's Note: There is a saying that "Money is dearer than life." And do not the actions of certain communes and brigades in Jiaxing Prefecture show this to be the case?

Commune and brigade use of local resources to develop economic diversification should be encouraged. However, in Jiaxing Prefecture, some communes and brigades show no concern for agriculture and no concern for the safety of human life. They sell drylands, sell mulberry groves, and even dig away flood prevention dikes and ponds that have been laboriously constructed over the years to offer materials in them for sale. They really care for nothing but the single word "money." What kind of development of economic diversification is this? By doing this, when suddenly the floodwaters run wild, when fields are laid waste and people perish, when both people and property are no more, the consequences will be unimaginable!

We call upon local governments to resolutely intervene in such activities. Where kilns seriously destroy the land, suspensions, mergers or conversions should be done as required, and communes and brigades that have caused serious damage to dikes should bear responsibility for restoring them within a fixed period of time. We are already in the season when floods occur, so this is no laughing matter at all!

The newspaper has received a letter from Li Dan [2621 0030] that said as follows: Recently while accompanying the Provincial Agricultural Commission Investigation Team on a fact finding tour of brick and tile plants in the

flaxing water network area, I observed that accompanying a sharp increase in the number of commune and brigade operated brick kilns has been the universal destruction of dikes to get soil, and the building of structures that impede watercourses, which has adversely affected anti-flood work, threatens agricultural production, and should arouse serious concern.

There have been two main kinds of activities that have destroyed dikes built to prevent floods. One is direct destruction of dikes to sell the clay in them. The other is the digging up of clay on the tops of dikes on both sides of river ports to sell to kilns. This has tremendously reduced the height of dikes. In some cases the dikes have been excavated from the inside outward, so all that remains is a thin embankment, which obviously is unable to withstand the onslaught of large amounts of water. For example, the sixth, the ninth, and the tenth production teams of Wuxing Production Brigade in Xinqi Commune, Huzhou City sold the flood dikes (atop which mulberry trees had been growing) on the south bank of Shuanglin Pond to the Xinqi Amalgamated Brick and Tile Plant for 600 yuan a mu. They have already dug away 38 meters of the dike to a depth of 2 meters, so that the river water and farmlands are virtually interlinked. Should a flood disaster suddenly occur, several hundred mu of ricefields within the dike would be totally inundated. Similar situations are rather common elsewhere. For example, an inspection done in Haining County during April shows that as a result of brick and tile plants taking away soil to fire bricks, in more than 220 places over a distance totaling 18 li, the height of flood dikes has been lowered beyond anti-flood specifications. Still another situation is that when production teams sold mulberry groves within the dikes or soil from drylands, in order to save labor required for hauling, they breeched the dikes to make passageways. Such breeches can be seen everywhere in rivers large and small. They range from 3 to 5 meters in depth, and some of them are even at the same level as the river. Should the river rise slightly, it would flow right through them inundating the ricefields. Lianshi District in Huzhou has 13 kilns and the dike was breeched in 84 different places posing a direct threat to the more than 6,700 mu of wetlands within the dike and affecting a total of more than 29,200 mu of farmlands. In Haining County breeches for passageways were made at more than 500 places, and in Jiaxing City, breeches were made in more than 300 places with the result that more than 28,900 mu of farmlands are in danger of onslaughts from large quantities of water.

In addition, most brick and tile plants constantly dump refuse and unwanted soil into the rivers or nibble away at river courses with piers reducing the watercourses' ability to channel floodwaters and their navigability. For example, a diversion channel is a major watercourse for draining floodwaters that flow through Deqing County. Whether or not it is unimpeded affects the ability to drain waterlogging from almost 1 million mu of farmlands in the eastern part of the county and from the plains in the Hangzhou and Jiaxing lake region. However, the Chengguan Commune Brick and Tile Plant in the county has dumped more than 5,000 cubic meters of trash and unwanted soil into this diversion channel during the past several years, blocking or occupying 7.3 percent of the section through which water passes. The authorities concerned have issued several injunctions to the plant to clear

the obstacles, but so far results have been miniscule. Another example is the Muzong Commune Brick and Tile Plant in Huzhou, which has dumped rubble and unwanted soil to build a pier for the unloading of cargoes that extend more than 15 meters into the river, taking up about one-half of the width of the waterway. In addition to the brick and tile plant, other commune and brigade enterprises have similarly blocked the flow of water. The Baimitang River is the main waterway connecting Deqing, Erdu, Wukang, and Shangbo, and it is also the major watercourse diversion for the Xinminqiao Drainage Station. Measures made by the county hydroelectric bureau show that the Chengguan Commune and the Xinmin Production Brigade stone quarries have piled blocks of stone and quarry tailings along the river shallows for a long period of time, the accumulation extending 14 meters into the watercourse and along the bank for more than 300 meters. At the worst place, 20.9 meters of the cross-section of the watercourse has been taken over, which is 36 percent of the cross section through which water ordinarily flows. In addition, the bed of the river has been raised one-half meter by an accumulation of 4,300 cubic meters of silt, which seriously impedes the passage of boats and the drainage and channeling of water.

Authorities concerned in all jurisdictions are aware of the aforementioned situations and have remonstrated; however, because action taken has not been sufficiently rigorous and since many units care only about the present and the interests of only a part of society and turn a deaf ear, old damage is not undone and new damage is created, old obstacles are not removed and new obstacles are added, so that damage to dikes and blockage of rivers become worse as time goes on.

Jiaxing Prefecture is a pivotal commodity grain base for Zhejiang Province. "When Jiaxing grain is lean, Jiangsu and Zhejiang are lean too," runs a saying. The high water season has already arrived and how good a job has been done to prevent flooding directly affects this prefecture's agricultural production and the safety of the people's lives and property. The ramifications are great. It is hoped that units concerned will think seriously about the situation as a whole and put a resolute halt to the destruction of dikes and the removal of soil. In sections from which dirt has been removed or dikes breached to make passageways, determined action should be taken to rapidly organize forces to fill in and restore, and obstacles in watercourses must be urgently removed. Local governments should intervene administratively in this and close down production by kilns that do serious damage to dikes, make them responsible for restoring dikes within a limited period of time, and genuinely intensify flood prevention work to assure the safety of the people's lives and property and a bumper harvest in agriculture.

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1979: 2 Yearbook 1979 1172

Vol. 15-2

TITLE: "Major Problems of Engineering Geology and Types of Reservoir in Karst Region, and the Treatments for Preventing Reservoir Leakage"

SOURCE: Beijing SHIWENDIANI GONGCHENGJUEHUI [HYDROGEOLOGY AND ENGINEERING GEOLOGY]
 No. 15-2, 15 Jul 82 pp 15-21

ABSTRACT: When water conservancy and hydroelectrical projects are being considered for karst region, problems of engineering geology in need of investigation include leakage and cave-in of the reservoir, the foundation of the dam, and its vicinity, the stability of the tunnels, the plant, and other structures, as well as the tanks and slopes of the reservoir, surge of water and drainage, the change of quality of reservoir water and ground water and the effect of the change, and karst and reservoir induced earthquakes, etc. This paper attempts to discuss only the problems of leakage and cave-in, however. Types of conditions in a karst region under which leakage and collapse occur easily are introduced. Three-dimensional models and equations for calculating the stability of dirt or rock bodies are explained. Twelve types of surface and underground reservoirs and 8 types of surface and underground karst for karst regions are described in tables; there is also a graphic table with explanations to demonstrate 10 ways of treatment to prevent leakage and cave-in of surface reservoirs and dam sites in a karst region.

1979: 1 JAN. 1979 1172

Vol. 15-2

TITLE: "Types and Evaluation Methods for Karst Natural Water Resources in Underground River Drainage"

SOURCE: Beijing SHIWENDIANI GONGCHENGJUEHUI [HYDROGEOLOGY AND ENGINEERING GEOLOGY]
 No. 15-2, 15 Jul 82 pp 22-25

ABSTRACT: Based upon the flow volume data of the underground river at Fuding Hou-
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[Continuation of SHIWENDIZHI GONGCHENGDI ZHI No 4, 1982 pp 22-25]

A main is also plotted to show that during the high water period, the ground water moves mainly through the karst channels and during the low water period mainly through the crevices. The water storage space; therefore, changes with the season. Based upon these facts, the author suggests that karst water resources should be divided into the volume regulated by the channel water force, the residual volume of the crevice water force, and the permanent storage of crevice water, and offers equations to calculate each of these.

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ORG: Guangxi Hydrogeology and Engineering Geology Brigade

TITLE: "Types of Pollution of Karst Ground Water in Guangxi and the Problem of Prevention and Control"

SOURCE: Beijing SHIWENDIZHI GONGCHENGDI ZHI [HYDROGEOLOGY AND ENGINEERING GEOLOGY] in Chinese No 4, 15 Jul 82 p 29

ABSTRACT: Due to the fact that the industrial wastes, the sewage, and the trash have not been properly treated and insecticides and chemical fertilizers have been applied in great quantities, the karst ground water has been polluted directly or indirectly in various degrees. At present, there are more than 10 thousand factories and mines, mostly situated on the banks of rivers and in karst regions. Every day, 4.4 million tons of industrial and living wastewater is discharged into the rivers and the fields and some of it directly into karst caverns to pollute the ground water. Based upon the survey data of recent years, the ground water pollution is divided into chemical contamination, biological contamination, heat contamination, and radiation contamination for description. The karst ground water flows slowly, the volume is small, and it does not receive the ultraviolet germicidal action of sunlight for being buried deep under the ground; once it is polluted, it is very

It is to restore it to its original purity. The paper suggests the following:
(1) The discharge of all waste materials into the ground water should be forbidden;
(2) A network of stations should be established to monitor the condition of the karst
ground water; (3) Effective technological measures should be adopted to accelerate
the movement of the ground water, to increase its volume, and to proceed with arti-
ficial supplementation and adjustment so as to increase the self-cleansing capacity
of the ground water and purifying agent may be added for localized contamination;
(4) Establish a sanitized protective zone at the sources of ground water, with trees
to protect the environment; (5) Implement environmental protection laws to strengthen
environmental management and carry out comprehensive utilization and treatment of
industrial and living wastes to reduce pollution of the ground water and the en-
vironment.

Author: Li Tongzhang [1981, 3, 97, 5328]

Editor: Bureau of Planning and Designing Management, Ministry of Water Conservancy
and Electric Power

Title: "Practice of Hydroelectrical Structures Constructed on Weak Rocks"

Journal: Beijing SHIWENDIZHI GONGCHENGDI ZHI [HYDROGEOLOGY AND ENGINEERING GEOLOGY]
Issue No. 4, 15 Jul 82, pp 30-33

Abstract: Someone had made a statistical computation of all concrete and stone
large and medium water conservancy structures and revealed that the problem
of weak rocks was encountered in 3/4 of these engineering structures in China. It
is generally believed that weak rocks have low compressive and shearing strength,
large deformation, poor water resistance, and obvious rheological effect.
The Changshao Reservoir of Hunan Province, the Changshao Reservoir of Zhejiang Pro-
vince, the Shuibila Reservoir of Hebei Province, the Shuangpai Hydroelectric Sta-
tion of Sichuan Province, and the Danjiangkou Water Conservancy Headquarters dams P
are described as samples of such engineering structures.
The rheological characteristic of weak rocks, as a special field of research, has
not been fully understood. There have not been any unified viewpoints concerning the definition,

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the standard, and the classification of weak rocks. The internal stress and strain of the foundation under the action of the engineering force and the destruction mechanism of the weak rock foundation are all subjects awaiting future studies.

AUTHOR: QI Yinling [7871 1714 3781]

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TITLE: "Relationship Between Structural Features and Collection of Ground Water in the Area of Wulumuqi"

SOURCE: Beijing SHIWENDIZHI GONGCHENGDI ZHI [HYDROGEOLOGY AND ENGINEERING GEOLOGY] in Chinese No 4, 15 Jul 82 pp 38-39, 55

ABSTRACT: The regional structure of Wulumuqi, the major faults, the outcrops are briefly described to show their relationship with the following zones of concentration of ground water: (1) Track fault zone; (2) The zone where the track fault intersects the compression-torque structural surface; (3) The zone where the major and the branch faults intersect and the nucleus of plicated syncline. The fault broken areas provide a favorable condition for the movement and storage of ground water, and a series of springs are exposed with a flow volume of 0.5 l/sec. Bore holes in the 50-m thick Quaternary System produced a water volume of 1271.38 tons/24 hrs., they may be used as sources of water supply. Attention must be given not to drill wells deep enough to reach the Jurassic coal strata so as to avoid affecting the water quality.

QIN
CNO: 4011/199

Experimentation

AUTHORS: HE Fugang [1381 0474]
WANG Jianqun [3769 1696 5028]

FROM: HE of Institute of Plant Protection, Liaoning Provincial Academy of Agriculture; WANG of Agricultural Station, the 81 Commune, Shenyang City

TITLE: "Research on the Prevention and Control of Bakanae Disease of Rice With MBC"

NOTE: Liaoning LIAONING NONGYE KEXUE [LIAONING AGRICULTURAL SCIENCES] in Chinese
Vol. 5, 15 Jun 82 pp 23-25

ABSTRACT: Seed treatment with a mercury compound produces good prevention and control effect on Bakanae disease of rice but the mercury agent is very stable; therefore, not easily decomposed to cause cumulative toxicity in men and animals. Its application has now been stopped. Since 1973, the authors have conducted laboratory experiments to prove the effectiveness of MBC for this purpose. Large acreage demonstrations followed to prove it to be the currently available effective substitute for the mercury compound. After seeds are soaked in water solution of 50 percent MBC wettable powder, bud forcing proceeds directly without rinsing and the sprouted seeds are planted directly. The Bakanae disease preventive effect of MBC is close to that of Ceresan, the organomercuric fungicide, but the toxicity of MBC is low to make it safe for men and animals. MBC may, therefore, be extended as a rice seed disinfecting agent. At present, MBC 50 percent wettable powder is being produced by Beijing Shuangqiao Agricultural Chemical Plant.

AUTHOR: DU Shutian [2659 2579 3944]

FROM: Liaoyang Prefecture School of Agriculture

TITLE: "Ground Plastic Film Cover Opened a New Way for High Yield Cotton in Liaoyang."

NOTE: Liaoning LIAONING NONGYE KEXUE [LIAONING AGRICULTURAL SCIENCES] in Chinese
Vol. 5, 15 Jun 82 pp 25-27

ABSTRACT: Experiments with ground plastic film cover for cotton cultivation have been conducted since 1976; by 1981, 302 production teams of 128 production brigades in Liaoyang Prefecture of the prefecture have adopted the technique to a total cotton acreage of 10,000 mu. Observed data with respect to the effect of the film on the soil temperature and on prolonging the growth and development period of the cotton crops are reported. Compared with uncovered control, the yield of ginned cotton of the film covered field averaged 4.1 jin higher, amounting to an increase of 89.2 percent. The quality of the cotton fiber is also generally higher. Plans should be made to extend this technique steadily. It has opened a new way of restoring cotton production in the prefecture to the original acreage.

AUTHOR: BEN Yimin [0117 3768 3046]

ORG: Liaoning Provincial Research Institute of Saline and Alkaline Land Utilization

TITLE: "On the Action of Comprehensive Improvement Measures of the Coastal Saline and Alkaline Lands in the Development of Modern Agriculture"

SOURCE: Liaonian LIAONING NONGYE KEXUE [LIAONING AGRICULTURAL SCIENCES] in Chinese No 3, 15 Jan 82 pp 1-5

ABSTRACT: Coastal saline and alkaline lands form a rich land resource of Liaoning; there are 3-4 million mu of these in Yingkou Prefecture of the lower reaches of Liaone River. Since the liberation, following surveying, designing, and developing, the party has carried out an overall plan of comprehensive improvements and 1.60 million of these lands in Yingkou have become rice growing acreage with a unit stable yield of 1800 jin/mu. The parent material of the soil of these lands is coastal sediment, to cause the soil to be primarily light colored meadow saline soil containing chlorides. The comprehensive reform project began in the early 50's, when the soil contained an excessive amount of harmful salts and was heavily clay. The yield of paddy rice was low and unstable and seedlings of upland crops were hardly able to survive. In the middle 50's, some typical sections were chosen for prolonged observation, for studying the principle of movement of water and salts under natural and artificial conditions, and for studying the critical saline tolerance of different crop plants. On the basis of summarizing the experience of the masses, comprehensive improvement

[continuation of LIAONING NONGYE KEXUE No 3, 1982 pp 1-5]

measures were adopted, including: (1) Water conservancy improvement: Drainage ditches, 0.5-0.7 m in depth, were dug every 20-40 m to form square fields of 1-2 mu in area to accelerate desalinization of soil and ground water. (2) Agronomical improvement: Heavy application of farm fertilizer, such as horse manure, and plowing rice stubble back into the soil raised its content of organic matter and its porosity and reduced its volume-weight. (3) Biological improvement: Aside from afforestation to nurture the source of water and improve the natural environmental condition, green manure crops, *Sesbania carmatina* first followed by rape and hydrophyton, were cultivated to provide more organic fertilizer. (4) Rice culture improvement: Such practices as dry seedbed and the application of herbicides have effectively improved the soil temperature and ventilation and controlled the problem of rice seedling roots. (5) Chemical improvement: Application of calcium perphosphate, 200 jin/mu in Jinjian Farm for example, has increased the yield 141.5-227.6 percent; the application of ammonium humic acid in addition to horse manure has been found to be effective for neutralizing alkalinity and improving the soil physical property. Measures to be carried out in the future to improve the coastal saline and alkaline lands still further are suggested and discussed.

Author: ZHANG Mingli [1940 9407 9401]
WANG Yuzhuo [1941 3768 3820]
JING Tao [1950 9447]

From: All of Plant Protection Institute, Liaoning Provincial Academy of Agricultural Sciences

TITLE: "Preliminary Observation of the Effect of TH6040 on Natural Enemies of Wheat Field Pests in Shenyang Prefecture"

JOURNAL: Liaoning LIAONING NONGYE KEXUE [LIAONING AGRICULTURAL SCIENCES] in Chinese
Vol. 4, 15 Jun 82 pp 33-35

ABSTRACT: In the wheat fields of Shenyang Prefecture, the natural enemies of pests include several species of ladybugs and lacewings [Chrysopa formosa Brauer]. When DDT and other chemicals are used to control army worms, these natural enemies are also harmed to destroy the ecological balance very seriously. In recent years, Thiourea [thiourea No 1] has been experimented to replace the aforementioned chemicals. Its effect on controlling army worms appears to be obvious and long lasting. In 1981, laboratory test and field observations were carried out on the effects of TH6040 with regard to the growth, development, and reproduction of these natural enemies of pests. Results indicate that lacewings are the most sensitive to TH6040 but its effect on the ladybugs is minor. When the 3 species of ladybugs are contaminated by TH6040, the larvae are not affected. Moreover, when ladybugs are treated with TH6040 in each stage of development, the survived ladybugs can complete the life cycle to lay eggs and enter into another generation.

1982
Date: 4-11/84

Experimentation

AUTHOR: • Shenjian [SHEN JIAN] 1953

ORIG: South China College of Agriculture

TITLE: "Inquiry Into the Problem of Low and Unstable Yield of the Late Rice Crop in Guangdong"

SOURCE: Guangzhou GUANGDONG NONGYE KEXUE [GUANGDONG AGRICULTURAL SCIENCES] in Chinese No. 4, 7 Jul 53 pp 1-4

ABSTRACT: In the 70's, yield reduction occurred to the late rice crop in Guangdong Province in about half of the years. In 1970, 78, and 81 the yield reduction amounted to more than 1 billion jin in each of the years. Most people believe the yield reduction is caused by the earlier than normal arrival of the cold wave and the more than normal frequency of typhoon and there have been many analyses of the adverse effects of the weather condition on late rice production, but not many studies on other aspects of the problem. Some say the area of glacier coverage of the N. Hemisphere has been 400 km larger to cause the growth period of crops to be 2 weeks shorter. Others claim that the destruction of tropical forests has caused a 15 percent increase of atmospheric CO₂ in the past century to cause the temperature to rise to melt the South polar ice resulting in a higher frequency of floods. The author claims that in the past decade, abnormal weather conditions in Guangdong remain temporary and it is not proper to consider the phenomenon of short duration as a permanent principle. He proceeds to analyze the low yield situation from the viewpoint of the ecological system, including the 6.5 percent reduction of nitrogen, phosphorus,

[Continuation of GUANGDONG NONGYE KEXUE No 4, 1953 pp 1-4]

and potassium application, compared with the early rice crop. The yield reduction of the late rice crop is 3.64 percent when the application of nitrogen is increased and that of phosphorus and potassium decreased; it is 1.58 percent when the application of nitrogen and potassium is both increased; and a yield increase of the late rice crop of 12.28 percent is obtained by an increased application of nitrogen, potassium, and phosphorus. Finally, the author offers several suggestions for achieving high and stable yield of the late rice crop.

Author: CHEN Yubo [7115 3700 3134]

Source: Guangzhou Municipal Bureau of Agriculture

Title: "Measures for Obtaining High and Stable Yield of Late Rice"

Source: Guangzhou GUANGDONG NONGYE KEXUE [GUANGDONG AGRICULTURAL SCIENCES] in Chinese
No. 4, Vol. 1, pp 4-6

Abstract: In the past 2 decades, 1959-78, the yield of the late rice crop has been very unstable in the region of Guangzhou. The acreage of the early rice crop was 1.84 million mu in 1959, 2.2584 million mu in 1978 and the unit yield was 222 jin/mu in 1959 and 532 jin/mu in 1978. The acreage of the late rice crop was 2.4541 mu in 1959, and 1.4259 million mu in 1978; the unit yield was 346 jin/mu in 1959 and 532 jin/mu in 1978. The rate of yield increase of the late crop is much less than that of the early crop. In the 20 years, the yield of the late crop increased in 12 years and decreased in 9 years. This phenomenon was more apparent in the 70's than the 60's. Following an analysis of the weather situation of the region of Guangzhou in the past 20 years, the author suggests that the key is a proper arrangement of sowing of the early and the late crops so that transplanting of the late crop may be largely completed by Liqiu [7-12 Aug.] an increased application of potassium and phosphorus fertilizer, a reasonable application of chemical nitrogen fertilizer, and good pest and disease prevention and control work so as to avoid the harmful weather days. Especially, if medium ripening late rice breeds are used, heading may be complete ahead of Liqiu to escape the early cold dew and wind.

Author: HU Jiling [5012 6855 6845]

Source: Guangdong Provincial Weather Station

Title: "Effects of Autumn Typhoon on the Late Rice Production of Guangdong Province"

Source: Guangzhou GUANGDONG NONGYE KEXUE [GUANGDONG AGRICULTURAL SCIENCES] in Chinese
No. 4, Vol. 1, pp 7-11

Abstract: Typhoons that begin to be active in late Sep are called autumn typhoons. In Guangdong Province, this is the time of heading and blooming, starch filling, and maturity of the late rice crop. Autumn typhoons often encounter cold air mass excitation, and the typhoon wind and rain to be extraordinarily violent. Although the temperature may not be very low (staying about 23°C all day) the lack of daylight and the strong wind have serious effects on blooming and fertilization. Judging from the historical meteorological data of the month of Oct in 1951-80, autumn typhoon activity has a great effect on the yield of the late rice crop in the province. Equations are introduced in the paper for calculating the correlation coefficient between the weather factors and the late rice yield. Results of computation indicate that the correlation between the temperature and the late rice yield is not very high, but the correlation between the rainfall and daylight and the late rice yield is greater; the correlation coefficient may generally be about 0.70.

AUTHOR: WANG Quannan [3769 6598 0589]
WEI Shaozhong [7279 1421 1813]
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ZHOU Zongmao [0719 1350 5399]

ORG: WANG, WEI of Zhanjiang Prefecture Science Committee; JIANG of Gaozhou County Science Committee; ZHOU of Sishui Commune Agricultural Science Station

TITLE: "Analysis of the Over a Thousand Jin/mu Yield Technique of the Ten Thousand Mu of Hybrid Rice"

SOURCE: Guangzhou GUANGDONG NONGYE KEXUE [GUANGDONG AGRICULTURAL SCIENCES] in Chinese No. 4, 6 Jul 82 pp 11-14

ABSTRACT: A contract was signed between the Zhanjiang Prefecture Science Committee, the Gaozhou County Science Committee, the Sishui Commune Management Committee and 172 production teams of 6 production brigades of Sishui Commune of Gaozhou County to demonstrate the one thousand jin yield technique of hybrid rice breeds of Shanyou No 2 and No 6 for the early rice crop of 1981. The goal was reached after half a year's efforts. The same ten thousand mu of early rice yielded 908 jin/mu in 1980 and 1004 jin/mu in 1981, amounting to a yield increase of 10.6 percent. The leaf-area and the number of spikes are analyzed to compare the various techniques of fertilizer application. The high yield technical measures are reported to be even and sparse seeding to produce strong seedlings with numerous tillers, transplanting more basic seedlings, applying sufficient basic fertilizer and skillful application of fertilizer to stimulate spike formation, draining and light sunning to promote ventilation and root development, and careful prevention and control of diseases and pests.

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ORG: WU of Fanyu County Bureau of Agriculture; IAI of Shilou Commune Extension Station; IAI of Shilou Commune Agricultural Science Station

TITLE: "Condition of Experimental Cultivation of Gangbaiai No 1"

SOURCE: Guangzhou GUANGDONG NONGYE KEXUE [GUANGDONG AGRICULTURAL SCIENCES] in Chinese No. 4, 6 Jul 82 pp 15-17

ABSTRACT: Gangbaiai No 1 is an intermediate ripening late rice breed bred out through hybridization of Gangzhizhan and Erbaiai. Experimental cultivation in 7 points in 1980 produced an average yield of 873 jin/mu, amounting to a yield increase of 18.2 percent over Erbaiai. In 1981, the experimental acreage was enlarged from the 11.85 mu of 1980 to 115.5 mu in Shilou Commune and the average yield was 848.4 jin/mu, amounting to a yield increase of 14.1 percent over Erbaiai, which was cultivated in 115.5 mu to serve as the control. In early Oct and Nov of 1981, the late rice crop suffered from low temperature and deficient sunlight; the fruiting rate, grain test weight, and yield of all breeds were affected. Expressions of Gangbaiai No 1 were better. Results of the 2-year experiment proved it to be a promising breed. Its properties and cultivation techniques are reported.

ISSN: 0411/148

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ORG: All of Jiangsu Provincial Academy of Agricultural Sciences

TITLE: "Key High Yield Cultivation Techniques of Wheat in the Lower Reaches of Changjiang"

SOURCE: Beijing NONGYE KEJI TONGXUN [AGRICULTURAL SCIENCE AND TECHNOLOGY NEWS-LETTER] in Chinese No 7, 17 Jul 82 pp 3-5

ABSTRACT: The ecological characteristics of the lower reaches of Changjiang during the growth and development period of wheat are mild temperature, not very low winter temperature in the early stage; in the middle and late stage, there are frequent rains and serious threats of diseases. Regarding the cultivation system, there are various forms of crop rotation of rice, wheat, green manure, and rape for 2 crops or 3 crops a year. The crop before the wheat is mainly rice. During the autumn wheat planting season, the pressure is too great to level the ground carefully. In breeds, both the spring type and the semi-winter type are used. Compared with the winter wheat region of North China, the obvious differences include a relatively shorter tillering stage, a relatively longer stage of spike development and formation, and shorter starch filling and fruiting stages. Based upon many years of research of the

[Continuation of NONGYE KEJI TONGXUN No 7, 1982 pp 3-5]

ecology and a summarization of experiences of the various localities, the authors put together a set of high yield wheat cultivation techniques for the lower reaches of Changjiang and demonstrated them in Zhenjiang, Suzhou, and Nanjing and obvious yield increase results were obtained. In 1981, the Ministry of Agriculture listed these techniques as emphasized items of demonstration and extension. These techniques are described under the following headings: (1) Improve the seeding method, select a reasonable density, and establish a high yield and stable yield colony structure; (2) Reasonable plan of fertilizer application on the basis of the nutritional characteristics of high yield wheat; (3) Protect the wheat crop from high humidity (the rainfall may be as much as 700 mm in southern Jiangsu) and arrange good drainage and irrigation facilities; (4) Regulate the condition of the seedlings through pruning and controlling measures; (5) Select superior high and stable yielding breeds; (6) Timely prevention and control of diseases and pests.

Author: Shao Liangshu [1924-1982]

Unit: Research Institute of Rice, Liaoning Provincial Academy of Agricultural Sciences

TITLE: "The Hybrid Geng Rice Breed, Liyou-57 and Its Cultivation Technique"

SOURCE: Beijing NONGYE KEJI TONGXUN [AGRICULTURAL SCIENCE AND TECHNOLOGY NEWS-LETTER] in Chinese No 7, 17 Jul 82 pp 4-5

ABSTRACT: In 1975, the Research Institute coordinated 3 lines to select and breed out Liyou-57 and its experimental cultivation began in 1976. In 1980, the Liaoning Provincial Breed Examination Committee approved it for extension and renamed it as Liangyou No 1. This hybrid grouping was listed as one of the emphasized items of demonstration and extension by the Ministry of Agriculture in 1981. Finally, it is to be nationally known as Liyou-57 and in 1981, according to incomplete statistics, it had an acreage of 900 thousand mu in Liaoning, Shandong, Beijing, Henan, and Shanxi. Either as the single season rice, the intermediate rice crop, the upland rice crop, or the rice crop following the wheat crop, Liyou-57 is known to produce a yield increase of 160-200 jin/mu, amounting to an increase of 10-30 percent over the local breeds under identical cropping system. In the northern part of Henan, it has been designated as the standard local breed of rice to follow the wheat crop. In suburbs of Beijing, some farms and communes are using it for upland cultivation and regarding it to be a new way of producing rice. For the purpose of meeting the demands of production development, the paper introduces its characteristics, properties, and cultivation technique, including the suitable growth and development period, yield structure, fertilizer application, water management, and disease and pest prevention and control.

Author: None

Unit: None

TITLE: "New Breeds of Winter Wheat"

SOURCE: Beijing NONGYE KEJI TONGXUN [AGRICULTURAL SCIENCE AND TECHNOLOGY NEWS-LETTER] in Chinese No 7, 17 Jul 82 pp 4-9

ABSTRACT: Fifteen new breeds of winter wheat are introduced in the paper: (1) 76-23654, bred out by Research Institute of Crops, Hebei Provincial Academy of Agriculture and Forestry; (2) Jingwang No 6, bred out by Dongbeiwang Farm Science and Technology Station of Beijing City; (3) Yannong-15, bred out by Yantai Prefecture Research Institute of Agricultural Sciences, Shandong Province; (4) Yannong-17, bred out by Yantai Prefecture Research Institute of Agricultural Sciences, Shandong Province; (5) Jinmo-12 (the original name was Taiyuan-243) bred out by Institute of Crop Genetics, Shanxi Provincial Academy of Agricultural Sciences; (6) Jinmo-16 (the original name was Taiyuan-243) bred out by the Wheat Group of Institute of Crop Genetics, Shanxi Provincial Academy of Agricultural Sciences; (7) Linfen-7410, bred out by Institute of Wheat, Shanxi Provincial Academy of Agricultural Sciences; (8) Linfen No 10, bred out by Institute of Wheat, Shanxi Provincial Academy of Agricultural Sciences; (9) Xiaoyin No 6, bred out by Northwest Research Institute of Botany; (10) Ningmo No 3, bred out

1. Introduction of NEWLY BRED WHEAT No. 9, 1962 pp 6-9]

Office of Wheat, Institute of Grain Crops, Jiangsu Provincial Academy of Agricultural Sciences; (11) Ningwu-317, bred out by Office of Wheat, Institute of Grain Crops, Jiangsu Provincial Academy of Agricultural Sciences; (12) Yuemo No 6, bred out by Institute of Upland Grains, Guangdong Provincial Academy of Agricultural Sciences; (13) Aifeng No 9, bred out by Qingyang Prefecture Institute of Agricultural Sciences, Gansu Province; (14) Qingfeng No 1, bred out by Qingyang Prefecture Institute of Agricultural Sciences, Gansu Province; (15) Mianyang No 11, bred out by Mianyang Prefecture Institute of Agricultural Sciences, Sichuan Province. The breeding history, average yield, characteristics and properties, key cultivation technique, and the procedure of buying and the price of seeds of these breeds are briefly stated respectively. A photo of each breed is included.

6-9

1962 10-12/1967

Farm Machinery

NOTE: Cf. Machine [1979] 1979/1979

NO: Wuhan Municipal Institute of Agricultural Mechanization

TITLE: "The 4MC-6 Adjustable Cotton Stalk Pulling Machine"

NOTE: Beijing NONGYE JIXIE [FARM MACHINERY] in Chinese No 6, Jun 82 p 14

ABSTRACT: After 2 years of research and experimentation, the Wuhan Municipal Institute of Agricultural Mechanization and the East Xihu Hebaohu Farm Repair and Assembly Plant jointly produced the 4MC-6 adjustable cotton stalk pulling machine, which has been approved in Dec 81. The machine can be installed onto either the Dongfanghong-25 or the Sanyo-25 tractor. Experiments in 315 mu of cotton fields proved it to be suitable for mainly the 4-row style cotton crop of 6 different ways of planting. Compared with the shovel type cotton stalk pulling machine and manual pulling, the new machine has several advantages. The shovel type breaks the stalk and leaves the main root in the ground to affect the seeding and growth of the following crop; it also consumes a great deal of power. Manual pulling requires the worker to spend several tens of kg of energy. Like the farmers say: "Pulling one mu of cotton stalks in a day makes a strong guy weary." Statistics indicate that even the strongest laborer can pull only 2 mu in a day. With the 4MC-6, 60-80 mu of cotton stubbles are cleared out in a day and neatly stacked up. It consumes less power than the shovel type machine and requires only 2 men to operate, including the driver of the tractor. The work principle and major parameters of the machine are provided.

1979
20: 4/11/1979

Authors: HU Fanchu [1915-1984]
CHEN Guoping [1915-1984]

From: Hu of Department of Biology, Beijing Teachers College; CHEN of Institute of
Tobacco, Beijing Municipal Academy of Agricultural Sciences

Title: "Studies on Fertilizer Requirement and Dry Matter Accumulation in Summer
Corn"

Source: Tianjin ZIYU XUEBAO [ACTA AGRONOMICA SINICA] in Chinese No 1, Mar 82,
pp 4-7

TEXT & ENGLISH ABSTRACT: Experiments have been carried out with 2 breeds of single
cross hybrid corn planted in the harvested winter wheat fields of 3 different levels
of soil fertility in Beijing in 1978 to 1980. The main results are as follows: (1)
The process of dry matter accumulation of summer-sown corn is similar on the whole
to that of spring-sown or interplanting corn; it shows a slow-fast-slow curve. But,
summer-sown corn grows faster at the earlier stage and accumulates a larger amount
of dry matter. (2) Two growing periods of summer-sown corn before and after flores-
cence are about the same length, but the accumulation of dry matter is faster at the
later stage, which is mainly utilized for grain formation. (3) The amount of NPK
assimilated by summer-sown corn increases with the grain yield, i.e. the higher the
soil fertility and the yield, the more nutrients the corn plants assimilate; 400 kg
dry matter (1/15 hectare) of summer-sown corn assimilates 10-12 kg N, 4-6 kg P_2O_5 , and

(Continuation of ZIYU XUEBAO No 1, 1982 pp 1-3)

Results: The ratio of the three is 3 : 1 : 2. (4) The nutrient absorption curve
of summer-sown corn corresponds to the dry matter accumulation curve, i.e. slow at
seedling stage, getting faster after elongation stage, reaches its height at silking
stage, and gradually slow down afterwards. The nitrogen absorption ends at milk
stage; phosphorus absorption continues until dough stage; the absorption of potas-
sium is even faster than those of nitrogen and phosphorus at earlier stage while
potassium is rapidly after the silking stage. The total amount of K per plant shows
a slight decrease before maturity.

AUTHOR: XIA Shuxian [5135 1459 6343]
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TITLE: "Studies on the Characteristics of Fertilizer Requirement of Hybrid Rice and the Application Technique"

SOURCE: Tianjin ZUOWU XUEBAO [ACTA AGRONOMICA SINICA] in Chinese No 1, Mar 82
pp 33-3.

TEXT OF ENGLISH ABSTRACT: The characteristics of fertilizer requirement of hybrid rice and the proper use of fertilizer application technique were studied based on the physiological indices of NPK in the different parts of plant during different growing stages under different fertilizer treatment. It was indicated that more nutrients of NPK were needed for a hybrid rice with a yielding of 1000 jin/mu as compared with the common rice. The minimum absorption of NPK of plants was in the intermediate growth stage, consisting of 50 percent of the total requirement during its whole life. After ear sprouting, it reached 90 percent. However, at this time the ear only absorbed N38.3 percent and P41.4 percent, and the stem absorbed 54.4 percent of K. The absorption of NPK in the other parts had reached 100 percent. The requirement of N50 percent, P90 percent for grain ear in the late stage, and

Continuation of ZUOWU XUEBAO No 1, 1982 pp 33-34

800 percent for stem was translocated from other plant parts. It was also indicated that adequate supplies of N under different fertilizer level with different application methods were necessary for high yield. Over application of N in the intermediate growth stage would prove hazardous to yield, unlike in the early growing stage. Application of proper amount of N in several times during the growing stage was an efficient way for high yield. Under low level application condition, N should be applied in intermediate growth stage for a good yield.

Author: ZHANG Yaosheng [1903-5004-0021]
JANG Linan [1906-7707-5478]

Institution: Heilongjiang Provincial Academy of Agricultural Sciences

Title: "The Principle of High-yielding Soybean and Its Culture Technique"

Journal: Tianjin ZUOWU XUEBAO [ACTA AGRONOMICA SINICA] in Chinese No 1, Mar 82
pp 41-48

ENGLISH ABSTRACT: The relationship between soybean yield and its component factors was discussed in the paper. An interaction was shown among the component factors. Generally, soybean yield per unit area was found to increase with the number of pods per unit area. However, small number of soybean seeds obtained from a pod together with a low 100-seeds weight would affect the desired yield. A proper proportion of the number of seeds and pods was important to the increase of production. Experiments showed that the proportion rate of seed to stem is 1.5 - 1.6 for determinate stem varieties, or 1.2-1.4 for indeterminate tall stem varieties for maintaining a yield level of 400 jin/mu. The leaf area was also correlated with yield. The higher the LAI, the higher yield usually obtained under a suitable condition. But, under good farm management with rational population structure and adequate fertilizer and water, the maximum LAI 5-6 at the end of pod formation and the beginning of pod filling was also good for a yield of 400 jin/mu. Moreover, the rise and decline of gradients seen in the curve diagram are slow. Experiments also showed that the leaf photosynthetic rate was an indicator to measure

Information: TIANJIN ZUOWU XUEBAO No 1, 1982 (pp 41-48)

the photosynthesis level. Varieties with high photosynthetic rate gave high yield. The main cultural practices for a high yield soybean introduced here were: raising the plant density and keeping its moisture as well as improving the planting method. The relationship of vegetative growth and reproductive growth, individual plant and its yield were also discussed.

Author: JING Yushan [0002 2490 0109]

ORG: Hunanxian County Agricultural Technology Extension Station, Shandong Province

TITLE: "A Statistical Analysis of the Development of Tillers in Winter Wheat and Their Use in Production"

SOURCE: Tianjin ZUOWU XUEBAO [ACTA AGRONOMICA SINICA] in Chinese No 1, Mar 82
pp 44-50

TEXT OF ENGLISH ABSTRACT: Experiments were conducted in field by pot-planting of wheat with single or multiple factors. Emphases were laid on study of the influences of temperature, fertilizer and water, planting density, on the tillering of wheat and on the difference of tillering ability among different varieties. Through analyzing with multiple regression of relationships between the number of individual wheat plants (y), accumulated temperature before winter (ΣT), conditions of fertilizer and water (d), planting density (c), and the index number of tillers of the variety (q), an experimental formula for the tillering of wheat before winter was obtained as follows: $\lg y = 0.00166 \Sigma T + 0.189d - 0.441gc + lgp + 0.105$. It was proved by facts that this formula may be used as a guide to the rational close-planting of wheat and management in its seedling stage.

Authors: JING Changling [0002 2490 0109]
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GU Yukang [7357 5940 1600]
FAN Jiliang [3382 1795 5328]

ORG: All of Shanghai Municipal Academy of Agricultural Sciences

TITLE: "A Study of Hybrid Rice Cultivation With Detached Tillers"

SOURCE: Tianjin ZUOWU XUEBAO [ACTA AGRONOMICA SINICA] in Chinese No 1, Mar 82
pp 11-14

TEXT OF ENGLISH ABSTRACT: Heterosis of hybrid rice has been shown to be highly significant in yield; however, its seed production is complicated as well as costly. Cultivating hybrid rice with detached tillers is an effective way of saving seeds. In order to obtain multi-tillers, hybrid rice seeds should be sown one month earlier under conditions of adequate fertilizer and water. The proper time for transplanting the tillers should be set at the 13.0 leaf age. Due to the efficiency of the lower leaf position and bigger leaf area, as well as the longer life of each functional leaf (n , $n-1$, $n-2$, $n-3$, etc.) the transplanted tiller plant possesses a stronger photosynthesis ability, higher ability of accumulating dry matter, and bigger panicles with multi-kernels, resulting in an increase of grain production.

Publication of ZUOWU XUEBAO No 1, 1982 pp 57-64]

In 1979, 60 hectares of paddy fields in the suburb of Shanghai were cultivated with transplanted tillers and an yield increase of 4-10 percent, averaging 7.2 percent, was obtained, compared with paddies of transplanted [whole] seedlings.

Authors: LU Weizhong [7120 4850 1813]
CHAO Yinhuai [6392 1377 3849]
FENG Xiaotang [7458 2556 2768]
LI Minglie [6760 2494 3525]

Address: All of Jiangsu Provincial Academy of Agricultural Sciences

Title: "A Preliminary Study on the Inheritance of Dwarfness of Wheat Variety Aibian No. 1"

Source: Tianjin ZUOWU XUEBAO [ACTA AGRONOMICA SINICA] in Chinese No 1, Mar 82

Summary: Aibian No 1 was selected out by Xi'an Municipal Institute of Agricultural Sciences in Shaanxi Province in 1972 from wheat plants of the breed Aiganzao, being a semi-dwarf. It is rather highly winter in characteristic, with stable short characteristic of 26-29 cm; the spike is large and the leaf straight standing. It was brought to the academy to be used extensively as a dwarf parent and the material for studying the inheritance of dwarfness. In the spring of 1978, it was artificially crossed with 6 breeds of different heights; in the spring of 1979, the F₁ hybrids were back-crossed with tall parents. In the autumn of 79, the

P_1 , P_2 , F_1 , and F_2 were single-grain seeded in rows. Before the harvest in 1980, the height of stalk was investigated. All F_1 of Aibian No 1 were found to be close to or shorter than their medium-height parent to demonstrate that the dwarf characteristic of Aibian No 1 is controlled by dominant genes. The frequency of distribution of short, medium, and tall plants among F_2 was 1 : 2 : 1, however. This fact does not coincide with the hereditary behavior of dwarfness controlled by a pair of completely dominant genes. The frequency of distribution of medium and tall plants among the backcross (B_1) is 1 : 1, and not 1 : 1 of short and tall plants. This fact indicates that the dwarfness of Aibian No 1 is not controlled by a pair of completely dominant genes. It is, in fact, mainly controlled by a pair of incompletely dominant genes. Other problems, such as whether the dwarfness of Aibian No 1, just like the wheat breed Lamuzhai, is controlled by a pair or many pairs of micro-effect dwarf genes, are still awaiting further studies.

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1. "Promoting Early Development of Cotton Seedlings by Means of Constant Temperature Culture"

Journal of the Chinese Academy of Sciences [AGRICULTURAL AGRONOMY SINICA] in Chinese No. 1, Mar 81

The author reports experiments of 2 years, 1979 and 80, with the technique of maintaining the temperature of the seedbed or the nutrient dish for 2-10 days before transplanting, the soil temperature is again maintained at night. This technique is found to be reliable to guarantee the maturity of the cotton fiber as well as abundant harvests of both seed and the cotton crop in South China where cotton is usually grown after the wheat harvest and the fiber is usually shorter than that of the cotton obtained by the direct transplanted cotton. Methods of using grass mulch or polychlorinated biphenyls to maintain the temperature, without consuming coal, electricity, etc., are found to be just as effective as the heating material. It is found that the cotton obtained by this technique is taller than seeding the cotton directly in the field.

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TITLE: "Hold Fast to Socialist Agriculture to Vitalize Rural Economy"

SOURCE: Beijing NONGCUN GONGZUO TONGXUN [RURAL WORK NEWSLETTER] in Chinese No 7, 9 Jul 83 pp 4-6

ABSTRACT: Yantai Prefecture, on the Jiaodong Peninsula, is one of the major areas of commercial grains production in Shandong Province. It also counts fish, shrimp, peanuts, apples, pears, grapes as its regular products. Its rural economy is as well developed as Suzhou of Jiangsu, Hangzhou of Zhejiang, or Fushan of Guangdong. In recent years, plowing, seeding, threshing, transportation, irrigation, etc. have basically realized mechanization or semimechanization. In 1981, the income of the communes totaled 1.78 billion, a distribution of 200+ yuan per person. Of the value of all its products, 2.94 billion yuan are agricultural products, amounting to 40 percent and 4.34 billion yuan are industrial products, amounting to 60 percent. How can the economy of a place like Yantai develop still further? After some considerations and consultations, the author offers the following ideas: (1) Breaking away from the traditional idea of considering agriculture as simply cropping; (2) Implementing a proper form of production responsibility system; (3) Relying upon science and investing some intelligence in the work of development; (4) Emphasizing the construction of small towns and cities to reduce the difference between cities and the countryside. Details of these suggestions are expounded.

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Research

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TITLE: "Progress of Research Works of the Research Institute of Pedology, Chinese Academy of Sciences"

SOURCE: Nanjing TURANG [SOILS] in Chinese No 3, Jun 82 pp 81-88

ABSTRACT: The year 1981 has been a year of increasing political stability in China, with continuous implementation of the readjustment policy and steady advancement of all types of projects. The research projects of the institute of 1981 are reported under the following headings: (1) Research on the formation of soil fertility for high and stable yield and its regulation and control: For example, planting wheat in rice paddies without plowing is found to have obvious effect on improving soil ventilation. (2) Research on soil resources and soil genesis classification: On the basis of natural regionalization, the soil resources of the country are divided in 3 levels of soil regions, soil zones, and soil areas to form the 1 : 4,000,000 soil regionalization draft proposal. (3) Research on comprehensive prevention and control of salinization in areas of the north receiving water transferred from the south, on the principle of movement of water and salts, and their adjustment and control. (4) Genetic classification of lateritic soils in China, their basic characteristics, and the fertility changes in the process of utilization. (5) Research on reasonable application of fertilizer in agricultural modernization and the theoretic-

[continuation of TURANG No 3, 1982 pp 81-88]

cal foundation. For example, application of peat or weathered coal in lateritic soils in proper amounts may obviously improve the growth of barley, but when they are applied to loessial subsoil they produce no effect on the growth of plants. (6) Research on soil pollution and its prevention and control: For example, in upland soils, the half-life of trifluran etc. is found to be 50 days; under the condition of submergence, it is found to be only 2-6 days. Residues of 666, DDT, etc. are also studied. (7) Application of such new technologies as remote sensing and electronic computer in pedology. (8) Research on basic characteristics of soil. For example, soil colloid absorption is studied in the 3 aspects of positive ions, negative ions, and metal ions. In addition to the above items, a great deal of work was performed in translating foreign publications of soil science. The USA journal, SOIL SCIENCE, is to have a special issue to introduce the condition of soil science research in China and 11 papers, 7 of which are Nanjing Research Institute papers, have been selected for that issue.

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Title: "Preliminary Study on the Release Rate of Soil Phosphorus"

Source: Nanjing TUDANG [SOILS] in Chinese No 3, Jun 82 pp 89-92

Abstract: For a long time, the effectiveness of soil phosphorus has been studied from the viewpoint of strength and volume factors and the dynamic concept between these factors and crop nutrient absorption is often neglected. The variation of phosphorus density in soil solution is controlled by the rate of release of solid state phosphorus in the soil as well as the condition of absorption of the root system. The dynamic study of soil phosphorus release was first carried out by AMER et al in 1955. Later, OLSEN (1975) used the theory of slow complexing of EDTA and phosphorus in soil solution to establish a dynamic model of ion movement in the vicinity of the root system of the plants. He pointed out that there is a good correlation between the release rate K and the maximum yield of crops. The authors used the method of EDTA and negative ion exchange resin technique to determine the soil phosphorus release rate of several soils of different fertility levels to clarify the general principle of release of soil phosphorus and its relationship with crop phosphorus absorption, and to form a preliminary attempt at forecasting the soil phosphorus supply level and the reasonable application of phosphorus. The experimental procedure and results are reported and discussed.

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